Cisco Video Surveillance Operations Manager
User Guide

Release 4.2

Americas Headquarters
Cisco Systems, Inc.
170 West Tasman Drive
San Jose, CA 95134-1706
USA
http://www.cisco.com
Tel: 408 526-4000
800 553-NETS (6387)
Fax: 408 527-0883

Text Part Number: OL-19676-01

NOTICE. ALL STATEMENTS, INFORMATION, AND RECOMMENDATIONS IN THIS MANUAL ARE BELIEVED TO BE ACCURATE BUT ARE PRESENTED WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED. USERS MUST TAKE FULL RESPONSIBILITY FOR THEIR APPLICATION OF ANY PRODUCTS.

THE SOFTWARE LICENSE AND LIMITED WARRANTY FOR THE ACCOMPANYING PRODUCT ARE SET FORTH IN THE INFORMATION PACKET THAT SHIPPED WITH THE PRODUCT AND ARE INCORPORATED HEREIN BY THIS REFERENCE. IF YOU ARE UNABLE TO LOCATE THE SOFTWARE LICENSE OR LIMITED WARRANTY, CONTACT YOUR CISCO REPRESENTATIVE FOR A COPY.

The Cisco implementation of TCP header compression is an adaptation of a program developed by the University of California, Berkeley (UCB) as part of UCB's public domain version of the UNIX operating system. All rights reserved. Copyright © 1981, Regents of the University of California.

NOTWITHSTANDING ANY OTHER WARRANTY HEREIN, ALL DOCUMENT FILES AND SOFTWARE OF THESE SUPPLIERS ARE PROVIDED "AS IS" WITH ALL FAULTS. CISCO AND THE ABOVE-NAMED SUPPLIERS DISCLAIM ALL WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING, WITHOUT LIMITATION, THOSE OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT OR ARISING FROM A COURSE OF DEALING, USAGE, OR TRADE PRACTICE.

IN NO EVENT SHALL CISCO OR ITS SUPPLIERS BE LIABLE FOR ANY INDIRECT, SPECIAL, CONSEQUENTIAL, OR INCIDENTAL DAMAGES, INCLUDING, WITHOUT LIMITATION, LOST PROFITS OR LOSS OR DAMAGE TO DATA ARISING OUT OF THE USE OR INABILITY TO USE THIS MANUAL, EVEN IF CISCO OR ITS SUPPLIERS HAVE BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

CCDE, CCENT, Cisco Eos, Cisco Lumin, Cisco Nexus, Cisco StadiumVision, the Cisco logo, DCE, and Welcome to the Human Network are trademarks; Changing the Way We Work, Live, Play, and Learn is a service mark; and Access Registrar, Aironet, AsyncOS, Bringing the Meeting To You, Catalyst, CCDA, CCDP, CCIE, CCIP, CCNA, CCNP, CCSP, CCVP, Cisco, the Cisco Certified Internetwork Expert logo, Cisco IOS, Cisco Press, Cisco Systems, Cisco Systems Capital, the Cisco Systems logo, Cisco Unity, Collaboration Without Limitation, EtherFast, EtherSwitch, Event Center, Fast Step, Follow Me Browsing, FormShare, GigaDrive, HomeLink, Internet Quotient, IOS, iPhone, iQ Expertise, the iQ logo, iQ Net Readiness Scorecard, iQuick Study, IronPort, the IronPort logo, LightStream, Linksys, MediaTone, MeetingPlace, MGX, Networkers, Networking Academy, Network Registrar, PCNow, PIX, PowerPanels, ProConnect, ScriptShare, SenderBase, SMARTnet, Spectrum Expert, StackWise, The Fastest Way to Increase Your Internet Quotient, TransPath, WebEx, and the WebEx logo are registered trademarks of Cisco Systems, Inc. and/or its affiliates in the United States and certain other countries.

All other trademarks mentioned in this document or Website are the property of their respective owners. The use of the word partner does not imply a partnership relationship between Cisco and any other company. (0805R)

Cisco Video Surveillance Operations Manager User Guide
Copyright © 2009 Cisco Systems, Inc. All rights reserved.

CONTENTS

CHAPTER 1 **Introduction** 1-1

About VSOM 1-2

VSOM Features 1-2

CHAPTER 2 **Getting Started** 2-1

Setting Up Your Browser to Access VSOM 2-2

Installing and Enabling ActiveX Controls 2-2

Accessing VSOM 2-3

Navigating the VSOM Interface 2-4

Setting Preferences 2-5

About the Administrator Pages 2-6

CHAPTER 3 **Using the Operator Page** 3-1

Working in the Operator Page 3-2

Exploring the Operator Page 3-3

Displaying Video from a Camera 3-5

Adjusting the Video Panel 3-6

Understanding Video Panes 3-6

Using Feed/Archive Controls 3-7

Adjusting Digital Zoom 3-10

Adjusting Image Controls 3-12

Using PTZ Controls 3-12

Using the Event Inbox 3-15

Clipping Events 3-18
Using Cisco SmartSearch 3-19

CHAPTER 4 **Managing Devices and Video Feeds 4-1**

Managing Servers 4-2
Adding a New Server 4-4
Editing or Deleting a Server 4-5
Displaying Server Information 4-7
Managing Parent/Child Servers 4-12
How Parent/Child Relationships Work 4-12
Configuring Parent/Child Servers 4-14
Managing Network Video Recorders and Digital Video Recorders 4-16
Adding a New NVR or DVR 4-17
Editing or Deleting NVR/DVRs 4-19
Displaying NVR/DVR Information 4-20
Managing Encoders 4-22
Adding a New Encoder 4-23
Editing or Deleting Encoders 4-24
Copying an Encoder 4-25
Displaying Encoder Information 4-26
Managing Analog Cameras 4-28
Adding a New Analog Camera 4-30
Editing or Deleting Analog Cameras 4-34
Displaying Analog Camera Information 4-35
Managing IP/Network Cameras 4-36
Adding a New IP/Network Camera 4-38
Editing or Deleting IP/Network Cameras 4-41
Copying an IP/Network Camera 4-42
Displaying IP/Network Camera Information 4-43

Configuring PTZ and Joystick Settings 4-45
Exporting PTZ Settings 4-47
Entering the PTZ Settings 4-47
Managing Monitors 4-52
Editing or Deleting Monitors 4-53
Displaying Monitor Information 4-54
Managing Groups 4-55
Manage Drag-and-Drop Groups 4-55
Manage Search-Based Camera Groups 4-56
Managing Camera Feeds 4-58
Adding a Child Feed 4-60
Editing or Deleting Camera Feeds 4-62
Performing Batch Administration Functions 4-63
Batch Administration Copy and Paste 4-67
Managing Archives 4-68
Displaying Archive Lists 4-69
Adding a New Archive 4-71
Creating Archive Backups 4-74
Editing or Deleting Archives 4-74
Managing Pre-Defined Views 4-76
Adding a New View 4-77
Editing or Deleting Views 4-81
Displaying View Settings 4-81

CHAPTER 5 **Administering the System** 5-1
Managing Users 5-2
Adding a User 5-3
Editing or Deleting Users 5-5
Displaying User Information 5-6

Working with LDAP 5-7
Managing Roles 5-8
Roles: Permissions and Rights 5-8
Roles Panel 5-10
Adding a Role 5-11
Editing or Deleting Roles 5-13
Copying a Role 5-14
Displaying Role Information 5-15
Managing Events 5-15
Adding an Event 5-17
Configuring, Editing, and Deleting Events 5-19
Setting Up Record on Motion Events 5-22
Setting Up Windows for Motion Detection 5-25
Managing Schedules 5-27
Adding a Schedule 5-28
Editing or Deleting Schedules 5-30
Configuring System Settings 5-32
Generating Reports 5-34
Displaying System Overview Information 5-36
Importing Devices 5-36
Managing Software and Downloads 5-38
Backing up the Database 5-38
Creating Custom Field Labels 5-40

INDEX

Preface

Overview

This document provides information about installing, configuring, and using Cisco Video Surveillance Operations Manager (VSOM).

Organization

This guide is organized as follows:

Chapter 1, “Introduction”	Presents an overview of VSOM.
Chapter 2, “Getting Started”	Describes how to install and use VSOM to manage multiple VSOM sites.
Chapter 3, “Using the Operator Page”	Describes how to use the VSOM Operator page to display and manage live video feed and video archives.
Chapter 4, “Managing Devices and Video Feeds”	Describes how to use the VSOM Administrator pages to manage servers, video equipment, and camera feeds.
Chapter 5, “Administering the System”	Describes how to use the VSOM Administrator pages to manage user accounts, system settings, and system utilities.

Obtaining Documentation, Support, and Security Guidelines

For information about obtaining documentation, support, providing documentation feedback, security guidelines, and recommended aliases and general Cisco documents, see the monthly *What's New in Cisco Product Documentation*, which also lists all new and revised Cisco technical documentation, at:

http://www.cisco.com/en/US/docs/general/whatsnew/whatsnew.html

For links to Cisco Video Surveillance documentation, go to

http://www.cisco.com/en/US/support/index.html, click the Physical Security link, and select your product.

CHAPTER 1

Introduction

This chapter presents an overview of Cisco Operations Manager (VSOM) and describes how it fits into the overall Cisco Video Surveillance architecture.

- About VSOM, page 1-2
- VSOM Features, page 1-2

About VSOM

VSOM is a full-featured video surveillance management application that runs on top of the Video Surveillance Media Server (VSMS) and Cisco Video Surveillance Virtual Matrix (VSVM) server platforms. VSOM enables administrators and system operators to access live and archived sources, track events, customize views, and simplify day-to-day tasks and operations.

VSOM includes predefined layouts that you can modify, such as camera and archive lists, camera groups and toggle tools for video-only display, pan-tilt-zoom control (PTZ), archive clipping, and snapshots from the current view. VSOM also provides full management console capabilities for multiple VSMS and VSVM servers, permitting the creation and management of a large scale, video surveillance network. As a web application, VSOM permits multiple users to access and use the application from anywhere on the network via a web browser.

VSOM is designed to manage multiple VSMS, Cisco Video Surveillance Encoding Server (VSES), and Cisco Video Surveillance Virtual Matrix (VSVM) servers. VSOM configures and manages the encoders, cameras, camera feeds, archives, and events on each VSMS server and configures and manages the monitors and views for each VSVM server.

Depending upon the size of your installation, you can install VSOM on the Cisco Video Surveillance Media Server (VSMS) or on a separate machine. Each system at the VSOM site also supports a Cisco Video Surveillance Management Console (VSMC).

The Cisco video surveillance infrastructure scales to support thousands of users and cameras across multiple physical locations. All system usage is logged and authorized users can generate reports to monitor usage, verify access to video, review event history, and check run-time statistics.

VSOM Features

VSOM provides the following features for operators:

- Repeat segment playback
- Video enhancement tools
- Operator-defined views

- Secure login
- Flexible video displays
- Views with both live and archived video
- Friendly user interface for PTZ controls and presets, digital zoom, and instant replay
- Inbox for event notification and management
- “Record Now” feature while displaying live video
- Ability to archive review and clipping
- Ability to synchronize multiple archives to play back at the same time
- Ability to quickly display video associated with event profile triggers

VSOM provides the following features for operators:

- Policy-based role and user access management
- Customizable interface, ideal for branded application delivery
- Secure login
- Ability to centrally manage all Media Server instances across sites
- Scheduled and event-based video recording
- Record-on-motion feature
- Included motion detection configuration tools
- Interface to Media Server software for encoder and camera administration
- Interface to Virtual Matrix software for pushing predefined views to digital monitors
- Ability to schedule to operator shifts, event filters, temporary views, and more
- Detailed activity reports

CHAPTER 2

Getting Started

This chapter describes how to get started using Video Surveillance Operations Manager (VSOM). For installation instructions, see the installation instructions that are supplied with the VSOM software.

- Setting Up Your Browser to Access VSOM, page 2-2
- Accessing VSOM, page 2-3
- Navigating the VSOM Interface, page 2-4
- About the Administrator Pages, page 2-6

Setting Up Your Browser to Access VSOM

You can use Microsoft Internet Explorer 6 or 7 to access VSOM.

To configure your browser to access VSOM, perform the following steps:

Procedure

Step 1 Open a supported web browser on your computer.

Step 2 Choose **Tools> Internet Options**.

Step 3 Open the Security tab.

Step 4 Choose **Trusted Sites > Sites**.

Step 5 Add the IP address of the VSOM server to the trusted site zone and click **Add**. Repeat for any additional servers.

Step 6 Click **OK** as needed to close the Tools windows.

Installing and Enabling ActiveX Controls

ActiveX is a program that can run in a web browser and interact with a web application. VSOM uses several ActiveX controls to play and control video. When you log in to VSOM for the first time, you are prompted to install the Cisco Video Surveillance Client, a series of ActiveX controls. In addition to ActiveX, the Microsoft Slider Control included with Internet Explorer is used to control video playback.

Note You must have Windows Administrator rights to install the ActiveX controls. Any previous ActiveX versions are uninstalled when you upgrade to a new ActiveX version.

You can install ActiveX in either of the following ways:

- Respond to the prompt when you access VSOM. When the system prompts you to install the ActiveX controls, click **Yes** for each control. If you have any problem, verify that you have Administrator rights by clicking **My Computer**, **Manage** from the menu.
- Download and distribute the axsetup.exe file for manual installation.

After ActiveX is installed, use your browser to add the VSOM server as a trusted host.

Note The system may prompt you to install the IntelliVision ActiveX control prior to opening the VSOM web interface. Click **Install** in response to the prompt. This prompt is not displayed if the SmartSearch application is set to **Do Not Use** on the settings panel.

Accessing VSOM

After setting up your browser and installing and enabling the ActiveX controls, you are ready to access VSOM.

To access VSOM, perform the following steps:

Procedure

Step 1 Open a supported browser.

Step 2 In the address bar of the web browser, enter the following URL:

http://<*VSOM IP address or host name*>

Step 3 Log in with your user name and password. The default user name is **root** and the default password is **secur4u**.

The VSOM interface opens.

Navigating the VSOM Interface

The web interface allows administrators and operators to display and manage live video feeds for multiple views based on their user authorizations. You can manage each view independently or in groups by using pre-defined, custom setups that define layout, content, and behavior that matches a setup with a view. Administrators can set up the default view as the Administrator pages or the Operator page.

The VSOM interface contains a left side panel with icons and menus and a main panel that displays operator controls, configuration panels, and other information.

The VSOM interface supports the following two modes:

- Operator page—Use this page to monitor and interact with video feeds.
- Administrator pages—Use these pages to configure VSOM settings.

When you are in the Operator page, click the **Admin** link or icon above the side menu to change to the Administrator pages. When you are in the Administrator pages, click the **View** link or icon above the side menu to change to the Operator page.

All of the links located above the side menu are described in Table 2-1.

Table 2-1 Side Panel Icons/Links

Item	Description
Admin	Click to open the Administrator pages. This link is visible only in the Operator page.
View	Click to open the Operator page. This link is visible only in the Administrator pages.
Help	Open the VSOM Online Help system.
Preferences	Click to display the Preferences window, which contains information about your login and system settings and allows you to change your password. See Setting Preferences, page 2-5.
Log Out	Exit the current VSOM session.

Setting Preferences

Preferences allow operators who do do have access to the Administrator pages to modify their login information and basic system settings.

To modify preferences, perform the following steps:

Procedure

Step 1 Open the Operator page or Administrator pages.

Step 2 Click the **Preferences** icon or link on the side panel.

Step 3 Specify the information describe in Table 2-2.

Step 4 Click **Submit**.

Table 2-2 Preferences

Item	Description
Username	Verify the user login name.
First name	Enter the user's first name (required).
Last name	Enter the use's last name (required).
Email	Enter the user email address (required).
Change Password	Click **Change Password**. Enter the current password and then enter and confirm a new password. Passwords must contain a minimum of six characters.
Default View	Select the preferred default view from the drop down box. These views have been previously configured in the views section of the application.
Invert Joystick Y-Axis	Select to determine Y-axis inversion via the a joystick.

About the Administrator Pages

The Administrator pages allows you to manage and control all aspects of the VSOM system. You must have administrator privileges to use this view.

The side menu in the Administrator pages includes the items listed in this section. The available items depend on your user privileges.

Note Many of the menu items have a single number in parentheses, such as (3), or a pair of numbers in parentheses, such as (9|22). The single number refers to the number of records of this type. The first number in the pair refers to the number of active records of this type, and the second number in the pair refers to the total number of records of this type.

Devices

- Servers—Configure and manage Video Surveillance Media Servers (VSMS), Video Surveillance Virtual Matrix servers (VSVM), and Video Surveillance Backup Servers (VSMS-Backup). See Managing Servers, page 4-2.
- NVRs/DVRs—Add and set permissions for network video recorders (NVRs) and digital video recorders (DVRs). See Managing Network Video Recorders and Digital Video Recorders, page 4-16.
- Encoders—Add and set permissions for video encoders. See Managing Encoders, page 4-22.
- Analog Cameras—Add and set permissions for analog cameras. See Managing Analog Cameras, page 4-28.
- IP/Network Cameras—Add and set permissions for IP/network cameras. See Managing IP/Network Cameras, page 4-36.
- PTZ and Joysticks—Configure and set permissions for PTZ-enabled cameras. See Configuring PTZ and Joystick Settings, page 4-45.
- Monitors—Set up views and layout panes with single and multiple views, and add and set permissions for new monitors. See Managing Monitors, page 4-52.

Video Feeds

- Group Overview—Set up camera groups. See Managing Groups, page 4-55.
- Camera Feeds—Set up the parameters for camera feeds. See Managing Camera Feeds, page 4-58.
- Batch Administration—Perform administrative functions on multiple cameras at the same time. See Performing Batch Administration Functions, page 4-63.
- Archives—Schedule archives and display a list of scheduled or running archives on analog and IP/Network cameras. See Managing Archives, page 4-68.
- Views—Set up the display panel for the Operator page. See Managing Pre-Defined Views, page 4-76.

Accounts

- Users—Set up user accounts. See Managing Users, page 5-2.
- Roles—Set up the roles that are assigned to user accounts. See Managing Roles, page 5-8.

System

- Events—Configure how events are displayed in the Operator page. Set up event triggers, alert criteria, event permissions, and event history reports. See Managing Events, page 5-15.
- Schedules—Set up schedules to enable or disable specified events, user accounts, and roles. See Managing Schedules, page 5-27.
- Settings—Assign access to administrative functions based on user roles. Users can select applications settings such as default views (skin) and language; determine application customization such as logos and images, and other administrative settings as applicable. See Configuring System Settings, page 5-32.
- Reports—Create user activity reports. See Generating Reports, page 5-34.
- Overview—Display current information on system usage, including user activity, logins, disk usage, archive status, and camera feed status. See Displaying System Overview Information, page 5-36.

Utilities

- Device Import—Organize and input device information for automatic inclusion into the VSOM database. See Importing Devices, page 5-36.
- Software and downloads—Download documentation, clients, or special tools. See Managing Software and Downloads, page 5-38.
- Database Backups—Arrange backups of the VSOM database. See Backing up the Database, page 5-38.

CHAPTER 3

Using the Operator Page

The Video Surveillance Operations Manager (VSOM) Operator page allows administrators and operators to display and manage live video feed and video archives.

Note For instructions on accessing and navigating the Operator page, see Accessing VSOM, page 2-3 and Navigating the VSOM Interface, page 2-4.

This chapter describes how to use the VSOM Operator page.

- Working in the Operator Page, page 3-2
- Using Feed/Archive Controls, page 3-7
- Using PTZ Controls, page 3-12
- Using the Event Inbox, page 3-15
- Using Cisco SmartSearch, page 3-19

Working in the Operator Page

Note Settings in the Administrator pages determine the available views, permissions, and functionality in the Operator page. For instructions on using the Administrator pages, see Chapter 4, "Managing Devices and Video Feeds," and Chapter 5, "Administering the System."

The VSOM Operator page supports simultaneous multiple views of live camera feeds and archived video. You can manage views independently or in groups by using pre-defined, custom setups that define layout, content, and behavior for matching a setup with a view. a

The Operator page side menu is divided into the following sections:

- Predefined Views—Display camera feeds or archives in a preset arrangement. The view includes list of sources, layout and behavior.
- Monitors—Move the current display to a VSVM-powered monitor. This permits rapid sharing of situations across a wide network instantaneously. Select a target monitor radio button and click the **Put View** icon.
- Camera Feeds—Display live video feeds from selected cameras.
- Video Archives—Display previously recorded video feeds.

The availability of the following Operator page features is based on user login permissions:

- Secure login
- Flexible video displays
- PTZ controls and presets
- Archive review and clipping
- Event notification
- Utilities (snapshots, clipping, adding views, etc.)

Exploring the Operator Page

The Operator page is divided into the areas shown in Figure 3-1 and described in Table 3-1.

Figure 3-1 Operator Page

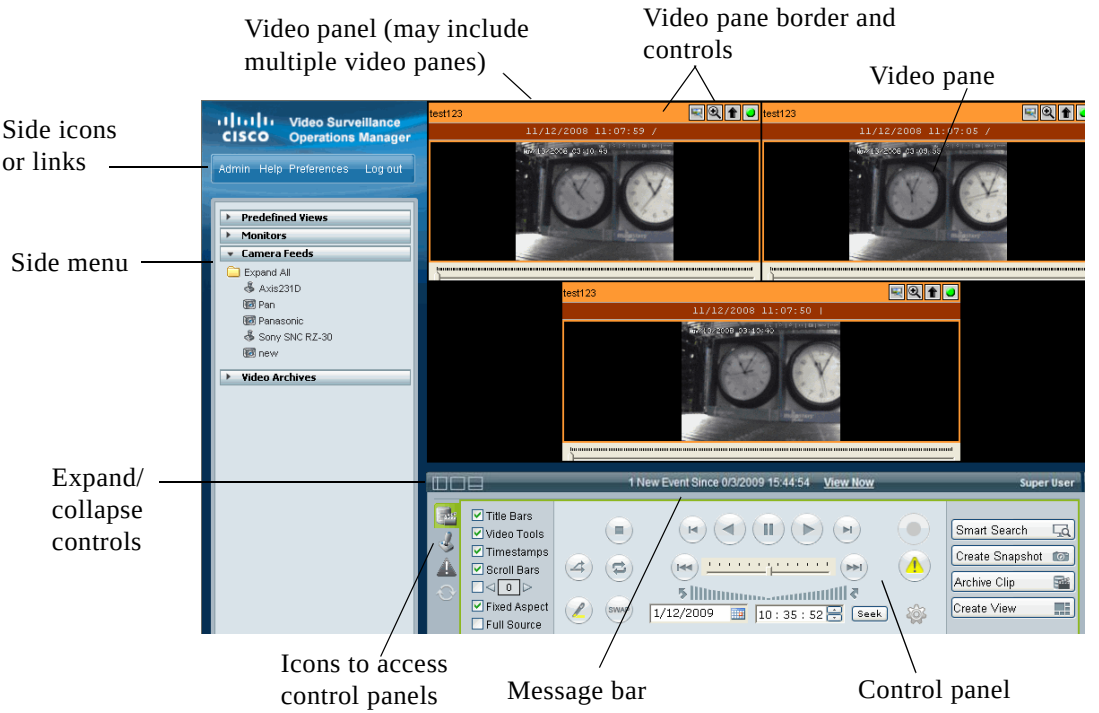


Table 3-1 Operator Page Areas

Section	Description
Side icons/links	Contains icons or links at the top for system navigation. See Table 2-1 on page 2-4.
Side menu	Allows you to select options for displaying videos: • Predefined Views—Select a pre-defined view, which includes the configured video sources, display layout, and associated behavior. Views have attributes for status bars, state icon, timestamps and scrollbars. A view may have a dwell time for how often video in the panels will cycle or rotate. When cycling, fixed panes do not change. If you click in a video panel to focus it, the video does not cycle. You can determine the pane state/status by the highlight color around it. For information on creating pre-defined views, see Managing Pre-Defined Views, page 4-76. • Monitors—Select a target monitor to display a view and choose one of the following options: – Get View—Display the view on the desktop (locally) only. Synchronizes the monitor with the view. – Put View—Push the display to a public view (video wall). Permits operators to rapidly move from a configured and/or multiple pane view to a single view. For information on defining monitors, see Managing Monitors, page 4-52. • Camera Feeds—Display live video from the selected camera. Feeds are grouped together in groups and sub-groups. For information on defining camera feeds, see Managing Camera Feeds, page 4-58. • Video Archives—Display previously-recorded video content. Archives are grouped in groups and sub-groups that mirror the camera feed groups. Archives can be loops that run continuously for a set period of time or that cover a set period of time. For example, a loop archive that is three days long will display up to the previous three days. For information on defining camera feeds, see Managing Archives, page 4-68.

Table 3-1 Operator Page Areas (continued)

Section	Description
Video panel	Displays the selected video in the specified layout, which may include multiple video panes.
Control panels	Allows you to display the following control panels: • Feed/archive controls—Allows you to control the video playback and create snapshots, archive clips, and views. You can generate snapshots in any video window in a view or by using control/click to select all panes. See Using Feed/Archive Controls, page 3-7. • PTZ controls—Allows you to set and use PTZ controls, if PTZ is enabled on the camera. Displays the preset console, configured PTZ sources, and camera options. These controls are available only if one or more PTZ cameras are configured. See Using PTZ Controls, page 3-12. • Events—Allows you to display, hide, mark, and create clips of the video segments associated with triggered events. See Using the Event Inbox, page 3-15. • Refresh signal—When this icon is highlighted, it indicates that the view has been updated or there are more entries available on the side menu. Click to refresh the view and pane. This is useful when you have modified a view or a newly saved clip has been added.

Displaying Video from a Camera

To display video from a camera, perform the following steps:

Procedure

Step 1 Open the Operator page.

Step 2 Choose a view from the Predefined View list on the side menu. See Managing Pre-Defined Views, page 4-76 for instructions on creating pre-defined views. You can also choose and create views by using the **Create View** button in the control panel.

Step 3 Choose one of the following options:

- Choose from the Camera Feeds list to display the video from a live camera feed.
- Choose from the Video Archive list to display a video archive.

The video is presented in the video panel with the specified view layout.

Adjusting the Video Panel

You can control how much of the browser window is used by the video by using the icons on the left border, just below the video panel. Move your cursor over the icon to display the labels for the following icons:

- Collapse/Expand Sidebar—Click this icon to show or hide the side panel.
- Collapse/Expand both Sidebar and Toolbar—Click this icon to hide or show the side panel and control panel. When you hide the panels, the video takes up the full browser window.
- Collapse/Expand Toolbar—Click this icon to show or hide the control panel.

Understanding Video Panes

The color of the border that surrounds a video pane provides information about the video. The colors are described in Table 3-2. See Figure 3-1.

Table 3-2 Video Pane Border Colors

Color	Description
Gray	Default border.
Green	Live feed/synch/active pane. The video pane must be selected to make it active.
Light green	Video image is focused.
Light orange	Fixed window (live and archive).
Orange	Fixed window/active (live and archive)
Yellow	Feed has an alert.

Using Feed/Archive Controls

The Feed/Archive control panel allows you to navigate and work with the displayed video. To display these controls, click the **Display Feed/Archive Controls** icon on the left side of the control panel.

Note The rights granted to your user login determine the available controls.

To use the feed/archive controls, perform the following steps:

Procedure

Step 1 Open the Operator page and click the **Display Feed/Archive** icon.

Step 2 Choose the settings and actions described in Table 3-3.

Table 3-3 Feed/Archive Control Settings and Actions

Item	Description
View options (check boxes)	Select check boxes for one or more of the following options: • Title Bars—Display a title bar in the video panel. The title bar lists the name of the camera feed or archive. • Video Tools—Display the following shortcut tools on the right side of the title bar (you must also select the title bar to see these options): – Launch SmartSearch—Click to start SmartSearch (see Using Cisco SmartSearch, page 3-19). – Toggle Full Screen on this Source—Click to show or hide an information bar. – Upload View to Monitor—Click to push the video image to the configured monitor. – Streaming—Click to display a information about the video stream. • Timestamps—Time stamps are displayed at the top of each video pane. The time stamp uses a 24 hour clock, is based on the stream's local time, and displays the stream time regardless of camera location. For live video, there is no time stamp, and “L” is displayed. • Scroll Bars—Enables a scroll bar for seeking to a point in time in the archive. • Dwell time indicator—Overrides the dwell time that is specified as part of a pre-defined view. See Managing Pre-Defined Views, page 4-76. When the number of sources exceeds the number of windows in the layout, the dwell time determines how long each feed or archive is shown in a window before moving cycling to the next feed. To override the dwell time, enter a number of seconds or use the arrows to increase or decrease the time. • Fixed Aspect—Adjust the view to the correct aspect ratio. The recommended resolution is 1280x1024. • Full Source—Display the selected video source in the full video panel.

Table 3-3 Feed/Archive Control Settings and Actions (continued)

Item	Description
Playback controls	Use the following playback controls (left to right) to display the video. These act on the players that have been selected, and only the applicable controls are active: • Stop—Reset to the start of the archive or clip • Step Reverse—Play back one frame • Play Reverse—Reverse the playback (applies only to all archives). Reverse play is not supported for MPEG-4. • Pause—Pause the playback. To resume, click **Play Forward**. • Play Forward—Play the clip. • Step Forward—Play forward one frame at a time. • Synchronize—Synchronize time between panes. When you highlight multiple panes, the uppermost/leftmost becomes the master. Click **Synchronize** to synchronize the time of all panes to the time on the scrollbar of the master. Then, when you move the scrollbar in any pane, that pane becomes the master and all other panes synchronize to it. If the intervals in the panes do not overlap, the synchronize function fails. • Loop Archive—Play the archive as a loop (applies only to archives). Loops back to the beginning of the archive when the end is reached. • Seek—Use the sliding bar to move through the video, or click the arrows to seek to the beginning or end of the video. • Date seek—To seek a specific date and time in the video, specify the date/time and click **Seek**. • Highlight All—Select all video panes in the video panel. • Swap—For archive/feed pairs, switch between the live feeds and loop archives and between display panes. If a loop is started against a camera feed, you can swap back and forth between live and recorded. • Player Control/Settings—Specify intervals for Record Now and repeat segment looping. When you click this icon, a pop-up window opens with the settings.
SmartSearch	Click to use Cisco SmartSearch. See Using Cisco SmartSearch, page 3-19.

Table 3-3 Feed/Archive Control Settings and Actions (continued)

Item	Description
Create Snapshot	Click to create a snapshot of the video that you can save to your local computer. This is applicable only to the currently selected view.
Archive Clip	Click to create an archive clip: 1. Specify the start and end date and time. Enter a date and time, or move the sliding bar to the desired place in the video and click **Set**. 2. Choose where to save the archive clip: – This Computer—Save to your computer in CVA, AVI, or WMV format. – Server-side—Save on the server in BWM, BWX, or streamable (compressed for Internet) format. 3. Click **Save Clip**. Click the **X** icon to close the Archive Clip window.
Create View	Click to select and/or save a view: • Click one of the view icons to show that layout in the video panel. • To save the view you selected, enter a name for the view and click **Save View**.

Adjusting Digital Zoom

Digital zoom allows you to digitally zoom and pan in the video window. This is a client-side feature that is available when you have the video mixing renderer (VMR) turned on. To use digital zoom, you must enable the VMR mode in the Settings page in the Administrator pages. **See** Configuring System Settings, page 5-32.

Note The capability to click on the video pane to PTZ is disabled in this mode.

To use the digital zoom toolbar, perform the following steps:

Procedure

Step 1 Verify that **Use VMR** is enabled on the Settings page in the Administrator pages. See Configuring System Settings, page 5-32.

Step 2 Open the Operator page and select a camera feed or archive.

Step 3 Click **Zoom**. A green rectangle showing the field of view is displayed in the lower right area of the image. When you use a zoom level beyond the original size, a red box is added to show the original view. You can then move within that field of view.

Step 4 Use the controls described in Table 3-4.

Step 5 To restore the original zoom level, click **1:1**.

Table 3-4 Digital Zoom Controls

Item	Description
Magnification Level	Displays the current level of magnification.
Zoom In	Click to increase magnification. This control is not available when the video is paused.
Zoom Out	Click to reduce magnification. This control is not available when the video is paused.
1:1	Restore the original magnification.
Snapshot	Click to create and save a snapshot. The zoom toolbar is unavailable during this operation.
Zoom	Click to enable zoom mode.
Reset	Restore defaults and exit the zoom mode.

Adjusting Image Controls

Image controls are used for live camera feeds to adjust the hue, saturation, brightness, contrast, and transparency of the video image.

Image controls apply for the current user and session and affect the display of video, not the camera settings. To use this feature, the camera must support the controls, and you must enable the VMR and DVR on the Settings page in the Administrator pages. See Configuring System Settings, page 5-32.

To use the image controls, perform the following steps:

Procedure

Step 1 Open the Operator page and select the camera feed.

Step 2 Click the down facing arrow on the far right, just below the video panel.

A small window opens to show the image controls.

Step 3 Use this sliding bars to the image settings.

Step 4 To restore the original settings, click **RESET**.

Using PTZ Controls

The PTZ Controls panel consolidates camera control commands on all pan-tilt-zoom (PTZ) configured cameras. Operators can move a selected camera by clicking the web controls, selecting a preset from the drop down menu, or using a USB joystick attached to the client work station.

PTZ operations involve panning (left/right), tilting (up/down), and zooming (in/out) the camera.

Operators can use embedded PTZ controls or a USB joystick to quickly move a selected camera. The operator can select a PTZ camera source from the navigation list on the left or from within the PTZ Tool and move the camera associated with that source. PTZ settings can be recalled based on camera and user information.

Operators must select the PTZ camera to control by clicking a video pane or selecting a radio button within the PTZ tool each time to transfer control from the previously controlled PTZ camera. The operator can also “lock” a camera. If a camera is locked, then the operator continues to control that camera, even if the feed from another camera is shown in the Display panel.

PTZ preset commands are mapped to USB joystick buttons, but not to mouse buttons. Presets are automatically mapped to each button in order. If the joystick has zoom controls, (twist) buttons 1 and 2 are mapped to zoom-in and zoom-out, and the rest of the buttons are mapped to presets in order. The Windows Game Controller in the Control Panel will show the numbers of the buttons if they are not labeled on the USB joystick.

Pan and Tilt can be used via the crosshair box. Zoom can be used via the vertical scale to the right of the crosshairs. To zoom in, scale up, to zoom out, scale down.

Note The PTZ and pane must be selected/active to use the associated PTZ functions.

To use the PTZ controls, perform the following steps:

Procedure

Step 1 Open the Operator page and click the **Display PTZ Controls** icon.

Step 2 Choose the settings and actions described in Table 3-5.

Table 3-5 PTZ Control Settings and Actions

Item	Description
PTZ Console	Use the following controls to manipulate the camera: • To pan or tilt the camera, drag your cursor around the center of the crosshair box. • To zoom the camera, use the vertical scale to the right of the crosshairs. Left-click and drag to use these controls. Do not let the mouse pointer leave the control. If it does, click on the control once to recover control. • To load a PTZ preset, select from the drop-down list. **Note** A selected pane does not rotate. To deselect a selected pane, click another pane or **Ctrl-click** in an already selected pane. You can determine that a pane is selected by the highlight color: a rotating pane is grey, a selected would-be-rotating pane is pale green, a fixed window is pale orange, and a selected fixed window is bright orange. During synchronization, the color is bright green.
PTZ Sources	The camera that is selected from the displayed list of camera feeds is the camera that is controlled by the PTZ controls: • Select a PTZ enabled camera. Only PTZ-capable cameras are displayed. • PTZ Preview Feed—Select to display a video pane playing the camera feed that was selected from the list of PTZ sources. • Lock PTZ Source—Select this option to prevent the PTZ source from changing when a different camera feed is selected for display in the Display Pane. This allows the operator to control a different camera than that which is being displayed in the Display Pane.

Table 3-5 PTZ Control Settings and Actions (continued)

Item	Description
Camera Options	**Note** The camera options are displayed dynamically based on the options supported with the selected camera. Choose from the following options (if available): • Focus—Toggle or auto adjust the focus. • Iris—Toggle or auto adjust iris. • Night—Toggle on/off or auto adjust for night mode. • Backlight—Enable or disable backlighting. • Digital Zoom—Enable or disable digital zoom. • White Balance—Toggle on/off or auto adjust the indoor/outdoor white balance.

Using the Event Inbox

Events are noteworthy occurrences that may include audible and visual alarms, switching monitor views, event bookmarking, and sending preset commands. When an event is triggered, it is listed in the Events inbox, allowing you to display information about the event and take corrective action as needed.

Note Events and associated notifications are defined in the Administrator pages. For more information, see Managing Events, page 5-15.

From the Events inbox, you can take actions to respond to triggered events. To display these controls, click the **Event** icon on the left side of the control panel.

Note When a new event is triggered, a message appears for the new event in the message bar (see Figure 3-1).

To display the event inbox, perform the following steps:

Procedure

Step 1 Open the Operator page and click the **Events** icon to display the events inbox.

Step 2 Choose the settings and actions described in Table 3-6.

Table 3-6 Event Inbox Controls and Actions

Item	Description
Time	Specify one of the following time options to filter the events inbox: • Real Time—Choose this option to display the last 100 events and add new events to the list as they are triggered. This is the only option for which new events are added to the list in real time. • All—Choose this option and then click **Go** to display a snapshot of all events in the event database. If the database capacity is exceeded, older events are discarded. This list is not updated in real time. • Date Range—Choose a date and time interval and then click **Go**. For dates, enter the date (mm/dd/yyyy format) or click the calendar icon. For times, enter the time in the hour, minute, and second fields or use the up and down arrows to specify the time. You must click **Go**.
Priority	Choose a priority level and click **Go** to filter the list. This option is not available if Real Time is selected.
Keyword	Enter a keyword to filter the list. The keyword applies to the Event Time, Event Name, and Description fields. Click **Go** to apply the filter or **Clear** to redisplay the unfiltered list. This option is not available if Real Time is selected.

Table 3-6 Event Inbox Controls and Actions (continued)

Item	Description
Events	Display the following information about each event: • Check box—Selects the event. Click the check box in the column heading to select all the events listed on the current page of the event inbox. • Priority—Indicates the severity of the event. The priority is defined by the Default Flag field when the event is created in the Administrator pages. See Managing Events, page 5-15. • Status—Indicates the severity of the event. • Event Time—Displays the date and time of the event. • Event Name—Lists the name that identifies the event. • Description—Displays an optional description of the event. **Note** Click on an underlined column header to sort on that column. Click again to reverse the sort order.
Actions	Choose any of the following actions: • View—Display the pre-defined view associated with the event, if there is one. • Seek—Move to the time of the event in the pane or panes that are selected. • Loop—Repeat the video for the event time (with the configured pre- and post- intervals). This applies to all panes that are selected. Click the **Player Control/Settings** icon in the Display Feed/Archive Controls panel to change the intervals.
Hide	Hides the selected events for the current user.
Unhide	Displays all the events that had been hidden for the current user.
Mark As	Select check boxes for one or more events and choose whether to mark the status as **Read** or **Unread**.
Create Clip	Select check boxes for one or more events. See Clipping Events, page 3-18.

Clipping Events

You can save video clips to the VSMS servers or export them to the Operator's computer. Regular BWM and BWX clips are saved to a VSMS server, with BWM and BWX clips downloadable through VSOM. AVI, WMV and CVA clips are exported to the Operator's computer only.

Note CVA clips are similar to BWM clips; however, CVA supports multiple video panes, allowing you to clip several panes at once.

To clip events, perform the following steps:

Procedure

Step 1 Open the Operator page and click the **Events** icon to display the events inbox.

Step 2 Select the events and choose **Create Clip > Create BWM Clip**, **Create Clip > Create BWX Clip** or **Create CVA Clip**.

Step 3 For BWX clips, the system prompts you to create a password of at least six characters to display the clip.

Note You can create a clip on a motion stop event but not on a motion start event. You cannot clip the same event twice because their start and stop times are the same.

A system message above the event list indicates the status of the request. The system creates a clip for each of the included events, including a buffer of a few seconds before and after the event occurs. The clips are created for all the selected feeds and archives.

Step 4 When the event clipping is complete, the Refresh button is highlighted. Click the button to update the Operator page with information about the created clips. If the clip does not display or play, refresh/reload the camera and verify the camera status.

Using Cisco SmartSearch

Cisco SmartSearch is a live and recorded video searching utility that enables you to search recorded video to locate where motion is detected. It works by streaming the selected video from the VSMS host to the client running the SmartSearch application where the video motion data will be indexed.

Note As a first-time user, you are required to install and run the CiscoVSS ActiveX client. The system prompts you to do so when you click the SmartSearch button in the Operator page. Alternatively, you can download SmartSearch from the Software and Downloads panel in the Administrator pages. See Managing Software and Downloads, page 5-38. Open the **SmartSearch setup.exe** file and follow the installation instructions.

To use SmartSearch after it is installed, perform the following steps:

Procedure

Step 1 Open the Operator page.

Step 2 Select the clip from the Video Archives list to be viewed.

Step 3 Click the SmartSearch icon or button in the Feed/Archive control panel to open the SmartSearch window. (See Using Feed/Archive Controls, page 3-7 for information on the Feed/Archive control panel.)

Step 4 Choose from the settings and actions described in Table 3-7.

Step 5 Click **OK**. To restore the default values, click **Use Defaults**.

Step 6 To display the index, you must close SmartSearch and then reopen it. If the camera is recognized, the system prompts you to index the stream again (open again) or search existing records (find a new clip).

Note Choose **Help > Help Contents** in the SmartSearch window for additional information on the SmartSearch user interface and toolbar, and for tutorials on opening clips, digital cameras, and searching.

Table 3-7 SmartSearch Settings and Actions

Item	Description
Playback Controls	Use the following playback controls: • Blue arrow - Starts playing the clip • Blue bars - Pauses the clip • Green button - starts indexing • Red button - stop indexing
Define the search area	Determine the search area: 1. Click **Search** to select the camera. 2. Use the **Select All**, **Clear All**, and drawing tool to select the areas in which to detect motion. 3. Click OK. SmartSearch displays a list of search results with video thumbnails. If there are no records, the search results window is not displayed.
Select motion events	Choose the motion events: 1. Click the motion event thumbnail once and then the **Send Event** button to seek the archive 10 seconds prior to the motion event. 2. Click the motion event thumbnail twice to display a short portion of the event video within the SmartSearch application.
Search clips outside of VSOM	Choose a clip: 1. Choose **File** > **Open Clip** and select the clip (AVI, MPG, or WMV format). 2. Associate the clip using the Motion Indexing Settings. Indexing is useful for displaying frames within specified motion detection areas. 3. Choose **View** > **Results Window** to display the feed parameters.

Table 3-7 SmartSearch Settings and Actions (continued)

Item	Description
Index a clip	Create index markers: 1. Choose **Input > Set Minimum Disk Space**, enter a maximum size for the index (GB) and click **OK**. 2. Configure the following settings: – Video types (not names)—Enter the type of video being viewed. This may include live or archive clips. – Camera—Enter the Camera ID from the camera module in VSOM. – Data—Indicate whether to modify or delete the currently displayed data. This does not remove the data from the saved directory, only from the current view. – Days to keep data—Maximum of 7 (stored on the local desktop for up to 7 days) – Processing—Normal or fast (frame or stream speed) – Scene type—Indoor/outdoor (for indexing of motion detection) – Time of Interest—For live feeds, this will be disabled. – Select all—Click first to select all masked areas. – Clear all—Click first to clear all selections. – Brush—Click first to select specified areas in the view to detect for indexing. – Eraser—Click first to unselect the specified areas highlighted for indexing. – Colors—Click first to display the color palette and select the highlight color.

CHAPTER 4

Managing Devices and Video Feeds

This chapter describes how to use the Video Surveillance Operations Manager (VSOM) Administrator pages to manage servers, video equipment, and camera feeds

- Managing Servers, page 4-2
- Managing Network Video Recorders and Digital Video Recorders, page 4-16
- Managing Encoders, page 4-22
- Managing Analog Cameras, page 4-28
- Managing IP/Network Cameras, page 4-36
- Configuring PTZ and Joystick Settings, page 4-45
- Managing Monitors, page 4-52
- Managing Groups, page 4-55
- Managing Camera Feeds, page 4-58
- Performing Batch Administration Functions, page 4-63
- Managing Archives, page 4-68
- Managing Pre-Defined Views, page 4-76

Managing Servers

Use the Servers menu item to set up Video Surveillance Media Servers (VSMS), Video Surveillance Virtual Matrix servers (VSVM), and Video Surveillance Backup Servers (VSMS-Backup).

The Servers panel opens when you click **Servers** on the side menu in the Administrator pages. This panel contains links to add a new server and manage parent/child servers. It also includes a table for each server type, which lists information about the server along with links and action buttons. The links and actions are described in Table 4-1.

Table 4-1 Server Panel Links and Buttons

Item	Description
Add a New Server	Define a new media server, virtual matrix server, or backup server.
Manage Parent/Child Servers	Set up parent/child relationships among servers.
Help buttons	Open the online help system to display help for the specified item.
Search	Enter text and click **Search** to search all of the fields in the table for the entered string.

Table 4-1 Server Panel Links and Buttons (continued)

Item	Description
Table Columns	Displays the following information: • Server Name (link)—Name that identifies the server. Click the link to open the configuration panel. See Displaying Server Information, page 4-7. • Version—Software version running on the server. • Host/IP Name—Host name or IP address of the server. For a virtual matrix server, the port reference :8086 is automatically entered in the field. Add the host name or IP address before the port entry. Examples: myvmserver:8086 or 10.22.3.4:8086 • Capacity—Total disk capacity on the server. • Capacity—Disk capacity on the server that is available for the specified function. • Expiration—Date that the server license expires. • Console—Click to open the server Management Console in a new browser window.
Action buttons	Allows you to perform the following actions: • Edit—Modify the server name, description, or right. See Editing or Deleting a Server, page 4-5. • Synchronize—Synchronize the VSOM database with the specified server. Use this option to incorporate previously configured monitors, camera feeds, and archives. This operation cannot be undone. **Note** When servers are imported or synchronized, the information populates only the applicable servers and camera feeds. When you delete a feed from a server after the server has been imported, all related archive, event, and feed records are deleted unless otherwise specified. • Delete—Remove the server from the database. See Editing or Deleting a Server, page 4-5.

Adding a New Server

Note Previously configured VSVM monitors are automatically imported into VSOM.

To add a new server, perform the following steps;

Procedure

Step 1 In the Administrator pages, click **Servers**.

Step 2 Click **Add a New Server**.

Enter the server information as described in Table 4-2.

Step 3 Click the **Rights** tab and verify the access designations. See Managing Roles, page 5-8.

Step 4 Click **Submit**.

Table 4-2 Server Settings

Item	Description
Server Type	Choose one of the following server types: • Video Surveillance Media Server (VSMS) • Video Surveillance Virtual Matrix (VSVM) • Video Surveillance Backup Server (VSMS-Backup) **Note** To back up video archives, the system must have at least one VSMS backup server. After backups have started occurring, you can open the Backup tab for the archive and display the information in the Backup Details area (see Editing and Deleting Archives). The information is for the last executed backup for that archive. **Note** The VSMS-backup server must have a repository for archive backups from other servers.

Table 4-2 Server Settings (continued)

Item	Description
Server Name	Enter a unique name for the server. Cisco recommends that you choose a standardized naming convention.
Description	Enter an optional description.
Host IP/Name	Enter the host name or IP address of the server. The address provided will be used by VSOM and all VSOM clients to access video from the system. If the server will be accessed using more than one IP address, you must enter a host name instead of an IP address, and you must configure the VSOM server and all VSOM clients to resolve the provided host name with the correct IP address. **Note** The host name or IP address must be accessible by the VSOM server and clients.
Display Settings (Virtual matrix servers only)	Specify the following display settings in Edit mode, after the server is defined (see Editing or Deleting a Server, page 4-5): • Border Size: 0-10 (px) • Colors: Enter colors in hexadecimal format. • Title Height: 1-20 (px) • Server Defaults: Restores the hexadecimal settings to the server defaults.

Editing or Deleting a Server

You can change the name and description of a server. For virtual matrix servers, you can also change display characteristics , after the server is defined.

To modify a server, perform the following steps;

Procedure

Step 1 In the Administrator pages, click **Servers**.

Step 2 Click **Edit** icon for the server name.

Step 3 Modify the server name or description.

Step 4 (Virtual matrix servers only) Enter display settings by selecting from the drop-down lists and entering values in the spaces provided, as in the following examples:

```
Border Size:           0
Fixed BG Color:        #e0e0e0
Fixed Text Color:      #000000
Highlight BG Color:    #A0EFA0
Highlight Text Color: #000000
Rotate BG Color:       #e0e0e0
Rotate Text Color:     #000000
Title Height:          20
```

Step 5 Click the **Rights** tab and verify the access designations. See Managing Roles, page 5-8.

Step 6 Click **Submit**.

When you delete a server, all of the associated encoders, cameras, child feeds, and event profiles are deleted. The system provides you with the option of keeping running feeds, archives, event histories, and configured NVRs/DVRs. You can add running feeds and archives and configured NVRs/DVRs that are left on the VSMS server when it is deleted back to VSOM by re-adding the VSMS server and using the Synchronize action with the server.

To delete a server, perform the following steps:

Procedure

Step 1 In the Administrator pages, click **Servers**.

Step 2 Click **Delete** icon for the server name.

The system prompts you to select from the following options:

- Leave running feeds on the server.
- Leave running and stored archives on the server.
- Leave event histories on the server.
- Leave configured NVRs/DVRs on the server.

Step 3 Select the desired options and click **Yes**.

Displaying Server Information

To display detailed information about a server, perform the following steps:

Procedure

Step 1 In the Administrator pages, click **Servers**.

Step 2 Click the name link for the server to open the configuration panel, Details tab.

Step 3 Use the information in Table 4-3 to display and configure the server information.

Table 4-3 Server Information

Item	Description
Details tab	Verify information about the server. Server Details: • Server Type—Server type: virtual matrix, media, or encoder. • Server Name—Name assigned to the server. • Host IP/Name—IP address or host name of the server. • Status—Enabled/disabled indication. • Console—Link to open the Management Console in a new browser window. Refer to the online help system for the Management Console for instructions on using the console. Disk Usage: • Repository—A mounted location on the VSMS host that has been dedicated to storing media data. • Size—Amount of disk space available to that particular repository. • Used (DF)—Amount of actual used disk space at the current time. • Free (DF)—Amount of actual free disk space at the current time. • Used Space—Amount of disk space (bytes) that VSMS has reserved for all of its requested archive recordings and clips. • Free Space—Amount of free disk space (bytes) that the VSMS server has available to reserve for future archive recordings or clips.
Server Info	Verify version, license, and configuration information: • Installed Version—Version information for the Media server. • License Information—License key activation/expiration dates, media output, client and server authorized quantities, and IP address information. • Configuration—Media Server configuration information.

Table 4-3 Server Information (continued)

Item	Description
Camera Feeds (Media server only)	Verify the following information about camera feeds on this server: • Feed Name—Name of the camera feed with link to open the Camera Feed panel for the selected camera. See Managing Camera Feeds, page 4-58. • Status—Indication of whether the camera is currently running, suspended, or not available. • Type—VSMS driver for the listed camera feed. • Source—Hostname or IP address of the video source, such as an external video device, internal video encoder, or another Media server. • Media Type—Types include H264, JPEG, MPEG-2, MPEG-2 Elementary, MPEG-4, and H.263. • Resolution—Video resolution of the camera feed. • F/B Rate—Frame rate and bitrate, which determine the amount of video data seen in a given amount of time. Frame rate is used to measure MJPEG streams, while bitrate is used with MPEG-2 and MPEG-4. Higher values represent more video data every second, which means smoother video and a more accurate representation of what is happening. In archive feeds, higher values result in larger file sizes. • Quality—Setting that determines the quality of an MJPEG feed. Higher values represent higher quality frames at the cost of higher frame file sizes (which may result in a stream more difficult to stream in some cases). • Exists in VSOM—Indication of whether VSOM recognizes this camera feed. • Exists in VSMS—Indication of whether VSMS recognizes this camera feed.

Table 4-3 Server Information (continued)

Item	Description
Archives (Media server only)	Verify the following information about each archive: • Name—Camera/archive name. Click this link to open the Archive panel. See Managing Archives, page 4-68. • Status—Indication of whether the archive is shelved (available but not currently used) or running. • Type—Archive type. Types include loop, recur(ring) or regular. • First Frame time—Time stamp for the first frame in the archive (yyyy-mm-dd hh:mm format). • Last Frame time—Time stamp for the last frame in the archive (yyyy-mm-dd hh:mm format). • Reserved Space—Amount of space set aside for the archive to be stored. • Start—Date the archive will begin or has begun. • End—Date the archive will end or has ended. • Expires—Period after which the archive expires (relative to the current time). • Exists in VSOM—Indication of whether VSOM recognizes this archive. • Exists in VSMS—Indication of whether VSMS recognizes this archive.

Table 4-3 Server Information (continued)

Item	Description
Events (Media server only)	Verify the following information about each event: • Name—Event name. • Device—Host name or IP address. • Source—Camera/component name. • Channel—Encoder channel. This is a hardware connection. • Type—Event type: • State—Rising or falling state. This is the event default. • Action—Action that the system takes in response to the event (None, Archive Clip, or Accelerate). This parameter is set in the event/actions module and is not available for soft triggers. • Camera Feeds—Name of the camera feed. • Framerate—Framerate at which the event clips are recorded when an event occurs. • Days to Live—Number of days between the time that the event video is saved and the time that it is removed from the system. • Notification URL—URL that is notified when the event is triggers and the event clip is created.
Rights	Verify the access rights for this server: • Name—Role name with a link that opens the Roles panel for the selected role. • Rights—Indication of the rights assigned to the role.

Managing Parent/Child Servers

VSOM servers can create parent/child relationships and push user accounts to child servers. When a role is related to a remote (additional VSMS host) role, the user accounts (user names and login information) are synchronized. New users added to a role will be pushed to the child role.

The guidelines apply to parent/child server management:

- Parent/child servers can be associated with VSOM 2.4.0 and above.
- Child accounts can be assigned to only one parent and only one role.
- Governed accounts have limited edit functionality.
- Child user's roles must be predefined.
- Child to child servers are not cascaded.
- Parent users cannot delete child accounts or change the rights of child roles.

How Parent/Child Relationships Work

Video feeds can originate from the direct proxy or from a different media server. A proxy video feed can be the parent to another video feed served by a different media server. Parent proxies can be from remote or local hosts and can be nested in a hierarchy with inheritance rights.

A direct proxy becomes a parent when a child proxy is created. A child proxy receives its video directly from a parent proxy. A child proxy has the same resolution, quality, and media type of its parent, but in the case of MJPEG video streams, a lower frame rate may be configured for the child feed.

Parent-child proxies permit more efficient network utilization by distributing video feeds closer to the viewers. This is very important in environments with remote branch offices or with limited bandwidth available for video delivery. By replicating a single video feed to a location with several viewers, the bandwidth requirements throughout the network are reduced.

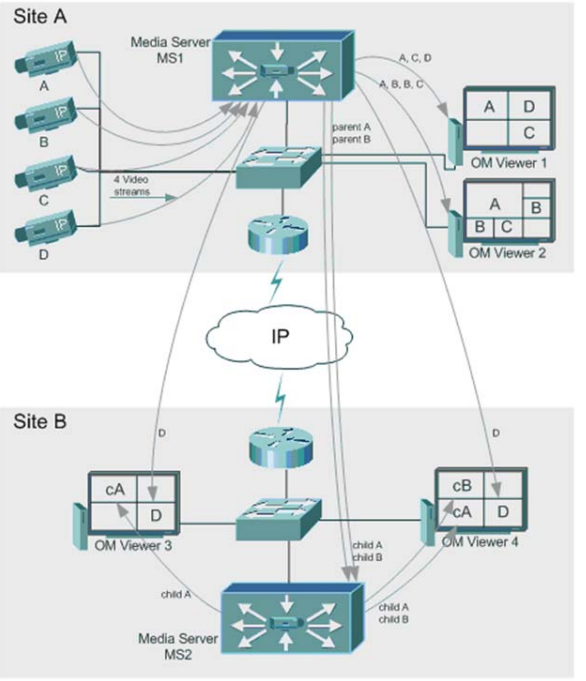
To conserve bandwidth, the child process connects to the parent source only when video streaming is requested by a viewer.

Example:

In Figure 4-1, Media Server MS1 is acting as the parent for two feeds that are served by Media Server MS2. Video feeds from cameras A and B are replicated to Media Server MS2, which in turn can be served to a large number of users or other child feeds. The environment has generated a total of six proxy processes:

- Media Server MS1 is the direct proxy to four edge devices but also replicates eleven different video streams to other viewers or child feeds.
- Media Server MS2 has created two child proxy feeds, child A and child B. These feeds can be propagated to any viewers locally on Site B, reducing the bandwidth requirements across the wide area connections.

Figure 4-1 Parent/Child Server Example



Configuring Parent/Child Servers

The parent server must be permitted to be the parent of a child server as set up in the Roles Users section. Multiple parents are permitted. VSOM can authorize additional VSOM parents to add itself as a Child VSOM; however, external parents must be recognized (in the list).

Define the child server roles on the child server prior to pairing with a parent server. You can assign child servers to a single parent server with one child role with limited permissions that is the only role able to modify the parent server. VSOM can add an additional child to a VSOM server and manage the child VSOM server user accounts.

To configure parent/child servers, perform the following steps:

Step 1 Add the parent server. See Adding a New Server, page 4-4.

Step 2 Choose **Servers > Manage Parent/Child Servers**.

Step 3 Select the **Authorize** check box on the Parent Servers tab.

Step 4 Configure the information described in Table 4-2. To add an additional parent server, click **Authorize Another Parent Server** and enter information for that server.

Step 5 Open the Child Servers tab.

Step 6 Select the **Authorize** check box.

Step 7 Configure the information described in Table 4-2. To add an additional child server, click **Authorize Another Parent Server** and enter information for that server.

Step 8 To determine whether the child server is available, click **Check**. Availability is checked and the result is displayed in the Results column.

Step 9 Click **Finished**.

Table 4-4 Parent/Child Server Settings

Item	Description
Parent Servers	
Parent Server Name	Enter the name assigned to the server in VSOM.
Host IP/Name	Enter the host name or IP address of the parent server.
Set Passphrase Confirm Passphrase	Enter and confirm a password that the child server will use to access the parent server.
Authorize Another Parent Server	Click to add another row in the Authorize Parent Servers list.
Child Servers	
Child Server Name	Enter the name assigned to the server in VSOM.
Host IP/Name	Enter the host name or IP address of the parent server.
Passphrase	Enter and confirm a password that the child server will use to access the parent server.
Availability	Click to determine whether the child server is available for connection to the parent server.
Results	Shows the result of the availability check.
Add Another Child Server	Click to add another row in the Add Child Servers list.

The following information applies to parent/child server management.

- To synchronize accounts on the a child server with those on the parent server, click the **Synchronize** icon for the server on the Servers panel. Synchronization is one level deep and the parent and child must have the same password. Pushing child users from the parent does not override the existing configuration.
- Parent and child proxies each count as a channel.
- Cisco recommends that user accounts be entered by local users to avoid affecting child user accounts. Child users are permitted to update child accounts.
- If you delete a parent feed with multiple child feeds running, all associated child feeds are deleted.

- Deselecting the Authorize check boxes on the Parent Servers panel or the Add check box on the Child Servers tab removes the associated field entries.
- Roles that have a parent user assigned cannot be deleted.
- You cannot delete a role if a parent user is logged in. When the role the user was assigned to is deleted and the user is not part of any other roles, all permissions are removed.
- Parent servers cannot delete child users but parent servers can release the child user from the parent server to perform self edits or deletions.

Managing Network Video Recorders and Digital Video Recorders

Use the NVRs/DVRs menu item to set up network video recorders (NVRs) and digital video recorders (DVRs). To use an NVR/DVR with VSOM, video is pulled from a supported NVR/DVR into a VSMS server, as with any other video source.

The NVRs/DVRs panel opens when you click **NVRs/DVRs** on the side menu in the Administrator pages. This panel contains a link to add a NVR or DVR. It also includes a table that lists information about the recorders along with links and action buttons. The links and actions are described in Table 4-5.

Table 4-5 NVR/DVR Panel Links and Buttons

Item	Description
Add a New NVR/DVR link	Define a new NVR or DVR.
Help button	Open the online help system to display help for the specified item.
Search	Enter text and click **Search** to search all of the fields in the table for the entered string.

Table 4-5 NVR/DVR Panel Links and Buttons (continued)

Item	Description
Table Columns	Displays the following information about each NVR or DVR: • NVR/DVR Name (link)—Name that identifies the recorder. Click the link to display detailed information about the recorder. • Host/IP Name—Host name or IP address of the NVR or DVR. • NVR/DVR Type—Brand and type of recorder. • Server Name—Name of the media server that controls this recorder. Click the link to open configuration panel for the media server. See Displaying Server Information, page 4-7.
Action buttons	Allows you to perform the following actions: • Edit—Modify the server information. See Editing or Deleting NVR/DVRs, page 4-19. • Delete—Remove the server from the database. See Editing or Deleting NVR/DVRs, page 4-19.

Adding a New NVR or DVR

To add a new recorder, perform the following steps:

Note After adding the NVR/DVR, you must synchronize the VSMS server that was configured with the NVR/DVR to make video from the NVR/DVR accessible in VSOM. See Managing Servers, page 4-2.

Procedure

Step 1 In the Administrator pages, click **NVRs/DVRs**.

Step 2 Click **Add a New NVR/DVR**.

Step 3 On the Details tab, enter the information as described in Table 4-6.

Step 4 Click the **Adv Config** tab and configure the PTZ option as described in Table 4-6.

Step 5 Click the **Rights** tab and verify the access designations. See Managing Roles, page 5-8.

Step 6 Click **Submit**.

Table 4-6 NVR/DVR Settings

Item	Description
Server	Select the server type from the drop down list. All supported servers are listed.
NVR/DVR Type	Select the NVR/DVR from the drop down list. All supported NVRs/DVRs are listed.
NVR/DVR Name	Enter the NVR/DVR name. It is recommended that naming convention standards be utilized for ease of use throughout the application.
Description	Enter an optional description of the recorder.
Host IP/Name	Enter the NVR/DVR Host/IP address or hostname. Use the DVR gateway IP address rather than the server or actual DVR.
Username	Enter the user name that is required for access to the NVR or DVR. **Note** The user id and password are set during the device installation process.
New Password/ Confirm Password	Enter and confirm the password that is required for access to the NVR or DVR. **Note** The user id and password are set during the device installation process.
Camera is PTZ enabled	Select to enable the PTZ camera functions. Verify status from the Status drop-down list, and select the recorder manufacturer from the Manufacturer drop-down list. These entries are applicable only if the camera has PTZ and motion detection capabilities and if the **Camera is PTZ Enabled** is selected.

Editing or Deleting NVR/DVRs

To change an NVR or DVR name, description, authentication, or assigned rights, perform the following steps;

Procedure

Step 1 In the Administrator pages, click **NVRs/DVRs**.

Step 2 Click **Edit** icon for the NVR or DVR name.

Step 3 Modify the NVR or DVR name or description.

Step 4 To update the user name and password information, click **Update Authentication**, make changes, and click **Submit**.

Step 5 Click the **Adv Config** tab and modify the PTZ settings as needed.

Step 6 Click the **Rights** tab and verify the access designations. See Managing Roles, page 5-8.

Step 7 Click **Submit**.

When you delete an NVR/DVR, all of the associated cameras, camera feeds, and encoders are deleted. The system provides you with the option of leaving the associated archive data files on the server.

To delete an NVR/DVR, perform the following steps:

Procedure

Step 1 In the Administrator pages, click **NVRs/DVRs**.

Step 2 Click **Delete** icon for the NVR/DVR.

Step 3 Select whether to leave archive data files on the server and click **Yes**.

Displaying NVR/DVR Information

To display NVR/DVR information, perform the following steps:

Procedure

Step 1 In the Administrator pages, click **NVRs/DVRs**.

Step 2 Click the NVR/DVR link to open the NVR/DVR configuration panel, Details tab.

Step 3 Use the information in Table 4-7 to display and configure the NVR/DVR information.

Table 4-7 NVR/DVR Configuration

Item	Description
Details tab	Verify the following information about the NVR or DVR. Server Details: • NVR/DVR Name—Displays the name of the recorder. • NVR/DVR Type—Displays brand and type of recorder. • Host IP/Name—Displays the IP address or host name of of the recorder • Status—Displays enabled/disabled server status. • Requires Authentication—Indicates whether the recorder requires a user name and password for access. • PTZ information—Indicates whether PTZ functionality is enable.
Camera Feeds	Verify the following information about camera feeds for this recorder: • Feed Name—Displays the name of the camera feed. Click the link to open the Camera Feed panel for the selected camera. See Managing Camera Feeds, page 4-58. • Media Type— Displays the media type. Available media types include H264, JPEG, MPEG-2, MPEG-2 Elementary, MPEG-4, and H.263.

Table 4-7 NVR/DVR Configuration (continued)

Item	Description
	• F/B Rate—Displays the frame rate and bitrate, which determine the amount of video data seen in a given amount of time. Frame rate is used to measure MJPEG streams, while bitrate is used with MPEG-2 and MPEG-4. Higher values represent more video data every second, which means smoother video and a more accurate representation of what is happening. In archive feeds, higher values result in larger file sizes. • Quality— Displays the quality setting of an MJPEG feed. Higher values represent higher quality frames at the cost of higher frame file sizes (which may result in a stream more difficult to stream in some cases).
Archives	Verify the following information about camera feeds for this recorder: • Feed Name—Displays the name of the camera feed. Click the link to open the Camera Feed panel for the selected camera. See Managing Camera Feeds, page 4-58. • Media Type— Displays the media type for the archive. • F/B Rate—Displays the frame rate and bitrate, which determine the amount of video data seen in a given amount of time. • Quality— Displays the quality setting of an MJPEG feed.
Rights	Verify the access rights for this NVR or DVR: • Name—Displays the role name. Click the name link to open the Roles panel for the selected role. • Rights—Indicates that rights assigned to the role.

Managing Encoders

Encoders convert analog video from analog cameras into digital video that VSOM can interpret and display. Encoders are defined by an IP address and an encoder type. It is common for encoders to be secured by a username and password and should be added as required. VSOM supports encoders for MJPEG and MPEG-4 video.

Some encoders permit multiple streams with different attributes from the same video input. For example, the same video input may be available both as a JPEG feed and a MPEG-4 feed. This is set up by permitting multiple analog cameras on the same input channel, even though there is only a single analog camera or video source. All configured cameras are listed and populate all layouts in the default camera group order as set by administrators.

Note Each VSES board must have a configured encoder.

The Encoders panel opens when you click **Encoders** on the side menu in the Administrator pages. This panel contains a link to add a new encoder. It also includes a table that lists information about the encoders along with links and action buttons. The links and actions are described in Table 4-8.

Table 4-8 Encoder Panel Links and Buttons

Item	Description
Add a New Encoder link	Define a new encoder.
Help button	Open the online help system to display help for the specified item.
Search	Enter text and click **Search** to search all of the fields in the table for the entered string.

Table 4-8 Encoder Panel Links and Buttons (continued)

Item	Description
Table Columns	Displays the following information about each encoder: • Encoder Name (link)—Name that identifies the encoder. Click the link to open the configuration panel. See Displaying Encoder Information, page 4-26. • Host/IP Name—Host name or IP address of the encoder. • Encoder Type—Brand and model information. • Camera Feeds—Number of camera feeds configured for this encoder.
Action buttons	Allows you to perform the following actions: • Edit—Modify the encoder information. See Editing or Deleting Encoders, page 4-24. • Copy—Define a new encoder with settings based on the selected encoder. See Copying an Encoder, page 4-25. • Delete—Remove the server from the database. Editing or Deleting Encoders, page 4-24

Adding a New Encoder

To add a new encoder, perform the following steps;

Procedure

Step 1 In the Administrator pages, click **Encoders**.

Step 2 Click **Add a New Encoder**.

Enter the encoder information as described in Table 4-9.

Step 3 Click the **Rights** tab and verify the access designations. See Managing Roles, page 5-8.

Step 4 Click **Submit**.

Table 4-9 Encoder Settings

Item	Description
Encoder Type	Choose the encoder type from the drop-down list.
Server Name	Enter a unique name for the encoder. Cisco recommends that you choose a standardized naming convention.
Description	Enter an optional description.
Host IP/Name	Enter the host name or IP address of the encoder.
Username	Enter the user name that is required for access to the encoder. **Note** The user id and password are set during the device installation process.
New Password/ Confirm Password	Enter and confirm the password that is required for access to the encoder. **Note** The user id and password are set during the device installation process.

Editing or Deleting Encoders

To change the encoder name, description, authentication, or assigned rights, perform the following steps;

Procedure

Step 1 In the Administrator pages, click **Encoders**.

Step 2 Click **Edit** icon for the encoder name.

Step 3 Modify the encoder name or description.

Step 4 To update the user name and password information, click **Update Authentication**, make changes, and click **Submit**.

Step 5 Click the **Rights** tab and verify the access designations. See Managing Roles, page 5-8.

Step 6 Click **Submit**.

When you delete an encoder, all of the associated cameras, camera fields, child feeds, and event profiles are deleted. The system provides you with the option of leaving archive files on the server, and retaining event history records.

To delete an encoder, perform the following steps:

Procedure

Step 1 In the Administrator pages, click **Encoders**.

Step 2 Click **Delete** icon for the encoder.

The system prompts you to select from the following options:

- Leave archive data files on the server
- Keep event history records from this device

Step 3 Select the desired options and click **Yes**.

Copying an Encoder

You can copy encoder settings to create a new encoder with the same values as a selected encoder. When you do so, the encoder permissions are inherited from the originating encoder.

To copy encoder settings, perform the following steps:

Procedure

Step 1 In the Administrator pages, click **Encoders**.

Step 2 Click the **Copy** icon for the encoder.

Step 3 Use the information in Table 4-10 to specify information about the copies.

Step 4 Click **Copy Encoders**.

Table 4-10 Encoder Copy Settings

Item	Description
Number of copies	Enter the number of copies that you want to create based on the selected encoder.
IP Start	Enter the IP address for the first copy. If you are creating multiple copies, the IP addresses are assigned consecutively, beginning with this specified address.
Use IP Address as Name	Select the check box to use the IP address of the copy as the encoder name.
Common Name/Name Sequence	If you do not choose to use the IP address as the name, specify the following: • Common Name—User-specified name to refer to this set of copies. • Name Sequence—Numbers or letters added to the common name to refer to specific copies. Choose letters or number and whether to append as a prefix or suffix. For example, if you make two copies, enter **myencoders** as the common name and choose **prefix**, the encoder copies are named **1myencoders** and **2myencoders**. If you choose suffix and letters, the copies are named **myencodersa** and **myencodersb**.

Displaying Encoder Information

To display encoder information, perform the following steps:

Procedure

Step 1 In the Administrator pages, click **Encoders**.

Step 2 Click the name link for the encoder to open the Encoder Information configuration panel, Details tab.

Step 3 Use the information in Table 4-11 to display and configure the encoder information.

Table 4-11 Encoder Information

Item	Description
Details tab	Verify the following information about the encoder. • Encoder Name—Displays the name assigned to the encoder. • Encoder Type—Displays the encoder brand and model. • Host IP/Name—Displays the IP address or name of the encoder. Click the link to open the home page of the encoder (if available). • Status—Displays enabled/disabled server status. • Requires Authentication—Indicates whether a user name and password are required to access the encoder.
Cameras	Verify the following information about the cameras used with this encoder: • Camera Name—Displays the name of the camera. Click the link to open the Camera panel for the selected camera. See Managing Analog Cameras, page 4-28 or Managing IP/Network Cameras, page 4-36. • Camera Type—Displays the camera brand and model. • PTZ Enabled—Indicates whether PTZ functionality is enabled on the camera. • Status—Indicates whether the camera enabled or disabled.

Table 4-11 Encoder Information (continued)

Item	Description
Camera Feeds	Verify the following information about the camera feeds associated with this encoder: • Feed Name—Displays the name of the camera feed. Click the link to open the Camera Feed panel. See Managing Camera Feeds, page 4-58. • Media Type— Displays the media type of the camera feed. Media types include H264, JPEG, MPEG-2, MPEG-2 Elementary, MPEG-4, and H.263. • F/B Rate—Displays the frame rate and bitrate, which determine the amount of video data seen in a given amount of time. Frame rate is used to measure MJPEG streams, while bitrate is used with MPEG-2 and MPEG-4. Higher values represent more video data every second, which means smoother video and a more accurate representation of what is happening. In archive feeds, higher values result in larger file sizes. • Quality— Displays the quality setting of an MJPEG feed. Higher values represent higher quality frames at the cost of higher frame file sizes (which may result in a stream more difficult to stream in some cases). **Note** A child feed must have the same quality value as the parent feed.
Rights	Verify the access rights for encoder: • Name—Displays the role name. Click the name link to open the Roles panel for the selected role. • Rights—Indicates that rights assigned to the role.

Managing Analog Cameras

Analog cameras provide analog video to encoders and may also support PTZ functions. Matching an analog camera to an encoder creates a camera feed (video stream).

Some encoders permit multiple streams with different attributes from the same video input. For example, the same video input may be available as a JPEG feed and a MPEG-4 feed. To support multiple streams, you can permit multiple analog cameras on the same input channel, even though there is only a single analog camera or video source.

The Analog Cameras panel opens when you click **Analog Cameras** on the side menu in the Administrator pages. This panel contains links to manage cameras. It also includes a table that lists information about the cameras along with links and action buttons. The links and actions are described in Table 4-12.

Table 4-12 Analog Camera Panel Links and Buttons

Item	Description
Add a New Analog Camera link	Define a new analog camera.
Edit Analog Camera Custom Field Labels	Click to create custom fields to store and display additional information. See Creating Custom Field Labels, page 5-40.
Help button	Open the online help system to display help for the specified item.
Search	Enter text and click **Search** to search all of the fields in the table for the entered string.
Edit	Select one or more items in the list and click **Edit** to modify the selected items.
Table Columns	Displays the following information about each camera: • Preview—Small video image from the video, if one is available. • Camera Name (link)—Name that identifies the camera. Click the link to open the configuration panel. See Displaying Analog Camera Information, page 4-35. • Channel—Video feed channel. Some encoders have multiple video feed inputs (determined by the encoder manufacturer). • Encoder Name—Name of the encoder that accepts the video from this camera. Click the link to open the encoder panel. See Displaying Encoder Information, page 4-26. • PTZ Config—PTZ features enabled on this camera. • Camera Status—Indication of whether the camera is active (enabled).
Action buttons	Allows you to perform the following actions: • Edit—Modify the camera information. See Editing or Deleting Analog Cameras, page 4-34. • Delete—Remove the camera from the database. Editing or Deleting Analog Cameras, page 4-34.

Adding a New Analog Camera

To add a new analog camera, perform the following steps;

Procedure

Step 1 In the Administrator pages, click **Analog Cameras**.

Step 2 Click **Add a New Analog Camera**.

Step 3 Enter information on each tab as described in Table 4-13. Cisco recommends that you use the default settings wherever possible.

Step 4 Click the **Rights** tab and verify the access designations. See Managing Roles, page 5-8.

Step 5 Click **Submit**.

Table 4-13 Analog Camera Settings

Item	Description
Camera Type	Configure the following settings on this tab: • Camera Name—Enter a unique name for the camera. Cisco recommends that you choose a standardized naming convention. • Description—Enter an optional description. • Status—Choose whether to make the camera active (enabled). • Encoder—Choose the encoder from the drop-down list. All supported encoders are listed. • Encoder Channel—Choose the encoder channel for the conversion from the drop-down list, or enter a channel manually. The channel refers to the video port number and is determined by the device manufacturer. A single analog feed can be connected to any video port on the encoder. For example, video input 3 can be used on the encoder without first using ports 1 and 2. You can assign multiple feeds to a single channel and display one at a time, or choose **quad** to display four feeds simultaneously. **Note** The remaining fields on this tab are dynamically populated based on the device parameters and previously configured settings. • Server—Choose the media server that manages this camera. • Media Type—Choose the media type from the drop-down list (H264, JPEG, MPEG-2, MPEG-2 Elementary, MPEG-4, or H.263). When selecting UDP on, leave the multicast address blank to enable unicast. **Note** Audio is embedded if the camera is MPEG ready. MPEG types will not display a preview.

Table 4-13 Analog Camera Settings (continued)

Item	Description
Camera Type (continued)	• Format—Choose the media format from the drop-down list. NTSC (60 Hz standard framerate) or PAL (50 Hz standard framerate).s • Resolution—Choose the resolution from the drop-down list. Resolutions under 1024 (i.e. 800 x 600) will display scrollbars and an undersized Operator page pane. • Transport—Choose the protocol used to transport the video data from the camera. For multicast transmission, enter the multicast address. For unicast transmission, leave the Multicast Address field blank. • Framerate or Bitrate—Choose the bit rate for transporting the video data from the drop-down list.The framerate and bitrate determine the amount of video data seen in a given amount of time. Framerate refers to MJPEG streams, while bitrate is used with MPEG-2 and MPEG-4. Higher values represent more video data every second, which means smoother video and a more accurate representation of what is happening. In archive feeds, higher values result in larger file sizes. • Variable bitrate— • Quality—Use the scroll bar to set video quality for camera feeds. For MJPEG camera feeds (MPEG-2 or MPEG-4), this will set the MJPEG quality (compression) setting of the video source, with 1 being the lowest quality (highest compression) and 100 being the highest quality (least compression); a setting of 50 is the default and produces a good balance between visual quality and size of the video data. For MPEG camera feeds, setting of 1-49 will set the video source to favor a higher frame rate over compression and visual quality; a setting of 50-100 will set the video source to favor less compression and better visual quality over frame rate.
Camera Groups	Add this camera to a group, or select Top Level (No Group) to indicate that you are not placing the camera in a group. Click a group link to display the subgroups and feeds in the group. See Managing Groups, page 4-55 for more information on camera groups.
Custom Fields	Add values for any custom fields that have been defined (see Table 4-12).

Table 4-13 Analog Camera Settings (continued)

Item	Description
Adv Config	These entries are applicable only if the camera has PTZ and motion detection capabilities. Cisco recommends that you use the default settings on this tab wherever possible. Define the following PTZ settings: • Camera is PTZ-enabled—Select the check box to permit PTZ camera control or deselect to turn the PTZ control off without removing the PTZ configurations from the list. • Status—Select Enabled to permit PTZ camera control. Disabling this settings turns the PTZ control off without removing the PTZ configurations from the list. • Manufacturer—Select the camera make and model from the drop-down list. • COM Port—Select the applicable COM port for the camera. • COM IP/Host Name—Enter the IP address or host name of a second encoder that controls the camera, or leave this field blank to use the same IP/Host Name as the selected encoder. For example, use this option if the video for a camera is plugged into one encoder and the PTZ connection is plugged into another encoder. • Chain Number—Enter the daisy chain number or camera address of the device if it is part of a daisy chain configuration. The daisy chain number is set at the camera as part of its serial communications settings. • PTZ Preset Labels—Enter labels for PTZ presets on the camera. Labels should be indicative of camera view or location, such as Front Lobby or Parking Garage A. You can delete preset labels by clearing the text field and clicking **Submit**.
Map Info	Associate the camera with map settings: • Latitude—Enter the distance north or south of the equator (decimal format). • Longitude—Enter the distance east or west of the meridian (decimal format). • Altitude—Enter the height in the atmosphere above sea level. • Floor/Level—Enter the building floor number.

Editing or Deleting Analog Cameras

To change the analog camera settings, perform the following steps;

Procedure

Step 1 In the Administrator pages, click **Analog Cameras.**

Step 2 Click **Edit** icon for the camera.

Step 3 Modify information on each tab as described in Adding a New Analog Camera, page 4-30.

Step 4 Click **Submit**.

When you delete a camera, the camera fields and child feeds are deleted and running archives are stopped. The system provides you with the option of leaving archive files on the server.

To delete an analog camera, perform the following steps:

Procedure

Step 1 In the Administrator pages, click **Analog Cameras.**

Step 2 Click **Delete** icon for the camera.

Step 3 Select whether to leave the archive files on the server.

Step 4 Click **Yes**.

Displaying Analog Camera Information

To display analog camera information, perform the following steps:

Procedure

Step 1 In the Administrator pages, click **Analog Cameras.**

Step 2 Click the name link for the encoder to open the configuration panel, Details tab.

Step 3 Use the information in Table 4-14 to display and configure the server information.

Table 4-14 Analog Camera Information

Item	Description
Details tab	Display or verify the following items: • Preview image—Shows a preview of the image. Click + to enlarge the image and - to reduce the preview image size. • Camera Name—Displays the name assigned to the camera. • Encoder Name—Displays the name assigned to the encoder. Click the link to open the Encoder panel. See Displaying Encoder Information, page 4-26. • Encoder Channel—Displays the channel on which the encoder receives video from the camera. • Status—Indicates whether the camera is active (enabled). • PTZ Information—Displays the PTZ configuration, if PTZ is supported and enabled on the camera. Click a PTZ reset to set the area of the video that is shown initially in the Operator page. When you click a PTZ reset, that area is shown in the preview image on this tab. Use the - and + icons for the image to enlarge or shrink the preview.

Table 4-14 Analog Camera Information (continued)

Item	Description
Camera Feeds	Verify the following information about the camera feeds for this camera: • Feed Name—Displays the name of the camera feed. Click the link to open the Camera Feed panel. See Managing Camera Feeds, page 4-58. • Media Type— Displays the media type of the camera feed. Media types include H264, JPEG, MPEG-2, MPEG-2 Elementary, MPEG-4, and H.263. • F/B Rate—Displays the frame rate and bitrate, which determine the amount of video data seen in a given amount of time. Frame rate is used to measure MJPEG streams, while bitrate is used with MPEG-2 and MPEG-4. Higher values represent more video data every second, which means smoother video and a more accurate representation of what is happening. In archive feeds, higher values result in larger file sizes. • Quality—Displays the video quality value for the camera feed. One is the lowest quality (highest compression) and 100 is the highest quality.
Custom Fields	Display the values for any custom fields that have been defined (Table 4-12).
Rights	Verify the access rights for this camera: • Name—Displays the role name. Click the name link to open the Roles panel for the selected role. See Managing Roles, page 5-8. • Rights—Indicates that rights assigned to the role.

Managing IP/Network Cameras

IP/network Cameras connect directly to the network and appear to VSOM as a combined analog camera and encoder in a single package. Adding an IP camera to VSOM creates a camera feed (video stream) that you can display in VSOM.

Many IP/network cameras are PTZ capable. Some allow simultaneous multiple streams with different attributes simultaneously.You can set up multiple streams by adding the same IP camera to the system multiple times but with different video parameters.

The IP/Network Cameras panel opens when you click **IP/Network Cameras** on the side menu in the Administrator pages. This panel contains links to manage cameras. It also includes a table that lists information about the cameras along with links and action buttons. The links and actions are described in Table 4-15.

Table 4-15 IP/Network Camera Panel Links and Buttons

Item	Description
Add a New IP/Network Camera link	Define a new IP/network camera.
Edit IP/Network Camera Custom Field Labels	Click to create custom fields to store and display additional information. See Creating Custom Field Labels, page 5-40.
Help button	Open the online help system to display help for the specified item.
Search	Enter text and click **Search** to search all of the fields in the table for the entered string.
Edit	Select one or more items in the list and click **Edit** to modify the selected items.
Table Columns	Displays the following information about each camera: • Preview—Small video image from the video, if one is available. • Camera Name (link)—Name that identifies the camera. Click the link to open the configuration panel. See Displaying Analog Camera Information, page 4-35. • Camera Type—Camera brand and model. • Host IP/Name—Host name or IP address of the camera. • PTZ Config—PTZ features enabled on this camera. • Camera Status—Indication of whether the camera is active (enabled).
Action buttons	Allows you to perform the following actions: • Edit—Modify the camera information. See Editing or Deleting Analog Cameras, page 4-34. • Copy—Define a new camera with settings based on the selected camera. See Copying an IP/Network Camera, page 4-42. • Delete—Remove the camera from the database. Editing or Deleting Analog Cameras, page 4-34.

Adding a New IP/Network Camera

To add a new IP/network camera, perform the following steps;

Procedure

Step 1 In the Administrator pages, click **IP/Network Cameras**.

Step 2 Click **Add a New IP/Network Camera**.

Step 3 Enter information on each tab as described in Table 4-16.

Step 4 Click the **Rights** tab and verify the access designations. See Managing Roles, page 5-8.

Step 5 Click **Submit**.

Table 4-16 IP/Network Camera Settings

Item	Description
Camera Type	Configure the following settings on this tab: • Camera Name—Enter a unique name for the camera. Cisco recommends that you choose a standardized naming convention. • Description—Enter an optional description. • Camera Type—Choose the camera brand and model from the drop-down list. • Host IP/Name—Enter the host name or IP address of the camera. • Status—Choose whether to make the camera active (enabled). **Note** The remaining fields on this tab are dynamically populated based on the device parameters and previously configured settings. • Server—Choose the media server that manages this camera. • Media Type—Choose the media type from the drop-down list (H264, JPEG, MPEG-2, MPEG-2 Elementary, MPEG-4, or H.263). When selecting UDP on, leave the multicast address blank to enable unicast. **Note** Audio is embedded if the camera is MPEG ready. MPEG types will not display a preview. • Format—Choose the media format from the drop-down list. • Resolution—Choose the resolution from the drop-down list. Resolutions under 1024 (i.e. 800 x 600) will display scrollbars and an undersized Operator page pane. • Transport—Choose the protocol used to transport the video data from the camera. For multicast transmission, enter the multicast address. For unicast transmission, leave the Multicast Address field blank.

Table 4-16 IP/Network Camera Settings (continued)

Item	Description
Camera Type (continued)	• Framerate or Bitrate—Choose the bit rate for transporting the video data from the drop-down list.The framerate and bitrate determine the amount of video data seen in a given amount of time. Framerate refers to MJPEG streams, while bitrate is used with MPEG-2 and MPEG-4. Higher values represent more video data every second, which means smoother video and a more accurate representation of what is happening. In archive feeds, higher values result in larger file sizes. • Quality—Use the scroll bar to set video quality for camera feeds. For MJPEG camera feeds (MPEG-2 or MPEG-4), this will set the MJPEG quality (compression) setting of the video source, with 1 being the lowest quality (highest compression) and 100 being the highest quality (least compression); a setting of 50 is the default and produces a good balance between visual quality and size of the video data. For MPEG camera feeds, setting of 1-49 will set the video source to favor a higher frame rate over compression and visual quality; a setting of 50-100 will set the video source to favor less compression and better visual quality over frame rate. • Camera requires authentication—Select the check box if authentication is required to access the camera. Enter a user name and password, and reenter the password to confirm.
Camera Groups	Add this camera to a group or groups, or select **Top Level (No Group)** to indicate that you are not placing the camera in a group. Click **Expand All** to show the full group hierarchy or **Collapse All** to hide the hierarchy.
Custom Fields	Add values for any custom fields that have been defined (see Table 4-15).

Table 4-16 IP/Network Camera Settings (continued)

Item	Description
Adv Config	Define the following PTZ settings: • Camera is PTZ-enabled—Select if the camera supported PTZ. • Status—Select Enabled to permit PTZ camera control. Disabling this settings turns the PTZ control off without removing the PTZ configurations from the list. • Manufacturer—Select the camera make and model from the drop-down list. • PTZ Preset Labels—Enter PTZ labels to map to USB joystick buttons. You cannot map these to mouse button. Labels should be indicative of camera view or location, such as Front Lobby or Parking Garage A. You can delete preset labels by clearing the text field and clicking **Submit**.
Map Info	Associate the camera with map settings: • Latitude—Enter the distance north or south of the equator (decimal format). • Longitude—Enter the distance east or west of the meridian (decimal format). • Altitude—Enter the height in the atmosphere above sea level. • Floor/Level—Enter the building floor number.

Editing or Deleting IP/Network Cameras

To change the IP/network settings, perform the following steps;

Procedure

Step 1 In the Administrator pages, click **IP/Network Cameras.**

Step 2 Click **Edit** icon for the camera.

Step 3 Modify information on each tab as described in Adding a New Analog Camera, page 4-30.

Step 4 Click **Submit**.

When you delete a camera, the camera fields, child feed, and event profiles are deleted and running archives are stopped. The system provides you with the option of leaving archive files on the server and keeping the event history.

To delete an IP/network camera, perform the following steps:

Procedure

Step 1 In the Administrator pages, click **IP/Network Cameras**.

Step 2 Click **Delete** icon for the camera.

Step 3 Select from the following options:

- Leave Archive data files on the server
- Keep Event History records from this device

Step 4 Click **Yes**.

Copying an IP/Network Camera

You can copy settings to create a new camera with the same values as a selected encoder. When you do so, the permissions are inherited from the originating camera.

To copy IP/network camera settings, perform the following steps:

Procedure

Step 1 In the Administrator pages, click **IP/Network Cameras**.

Step 2 Click the **Copy** icon for the camera.

Step 3 Use the information in Table 4-17 to specify information about the copies.

Step 4 Click **Copy Camera**.

Table 4-17 IP/Network Camera Copy Settings

Item	Description
Create Feeds on Server	Choose the media server on which to create feeds for the new camera.
Number of copies	Enter the number of copies that you want to create based on the selected camera.
IP Start	Enter the IP address for the first copy. If you are creating multiple copies, the IP addresses are assigned consecutively, beginning with this specified address.
Use IP Address as Name	Select the check box to use the IP address of the copy as the camera name.
Common Name/Name Sequence	If you do not choose to use the IP address as the name, specify the following: • Common Name—User-specified name to refer to this set of copies. • Name Sequence—Numbers or letters added to the common name to refer to specific copies. Choose letters or number and whether to append as a prefix or suffix. For example, if you make two copies, enter **mycamera** as the common name and choose **prefix**, the copies are named **1mycamera** and **2mycamera**. If you choose suffix and letters, the copies are named **mycameraa** and **mycamerab**.

Displaying IP/Network Camera Information

To display IP/network information, perform the following steps:

Procedure

Step 1 In the Administrator pages, click **IP/Network Cameras.**

Step 2 Click the name link for the camera to open the configuration panel, Details tab.

Step 3 Use the information in Table 4-18 to display and configure the camera.

Table 4-18 IP/Network Camera Information

Item	Description
Details tab	Display or verify the following items: • Preview image—Shows a preview of the image. Click + to enlarge the image and - to reduce the preview image size. • Camera Name—Displays the name assigned to the camera. • Camera Type—Displays the camera brand and model. • Server—Displays the name of the media server that supports the camera. Click the link to open the Server panel. See Displaying Server Information, page 4-7. • Host IP/Name—Displays host name or IP address of the camera. Click the link to open the home page of the camera (if available). • Status—Indicates whether the camera is active (enabled). • PTZ Information—Displays the PTZ configuration, if PTZ is supported and enabled on the camera. Click a PTZ reset to set the area of the video that is shown initially in the Operator page. When you click a PTZ reset, that area is shown in the preview image on this tab. Use the - and + icons for the image to enlarge or shrink the preview.
Camera Feeds	Verify the following information about the camera feeds for this camera: • Feed Name—Displays the name of the camera feed. Click the link to open the Camera Feed panel. See Managing Camera Feeds, page 4-58. • Media Type— Displays the media type of the camera feed. Media types include H264, JPEG, MPEG-2, MPEG-2 Elementary, MPEG-4, and H.263. **Note** Audio is embedded if the camera is MPEG ready. MPEG types do not display a preview. • F/B Rate—Displays the frame rate and bitrate, which determine the amount of video data seen in a given amount of time. Frame rate is used to measure MJPEG streams, while bitrate is used with MPEG-2 and MPEG-4. Higher values represent more video data every second, which means smoother video and a more accurate representation of what is happening. In archive feeds, higher values result in larger file sizes. • Quality—Displays the video quality value for the camera feed. One is the lowest quality (highest compression) and 100 is the highest quality.

Table 4-18 IP/Network Camera Information (continued)

Item	Description
Custom Fields	Display the values for any custom fields that have been defined (Table 4-12).
Rights	Verify the access rights for this camera: • Name—Displays the role name. Click the name link to open the Roles panel for the selected role. See Managing Roles, page 5-8. • Rights—Indicates that rights assigned to the role.

Configuring PTZ and Joystick Settings

VSOM supports the movement, configuration and control of cameras as analog cameras connected to encoders or as IP cameras. For PTZ-enabled cameras, you can configure and use PTZ presets in addition to typical pan (left-right), tilt (up-down) and zoom (in-out) movements. Other camera options such as iris and focus settings also can be controlled. If a PTZ camera is not listed in the PTZ tool, then PTZ functionality is not configured or not enabled, or the user does not have management permission. Open the Analog or IP Cameras administration panels to enable PTZ Configuration.

Operators can use embedded PTZ controls or a USB joystick to quickly move a selected camera. The operator can select a PTZ camera source from the navigation list on the left or from within the PTZ Tool and move the camera associated with that source. PTZ settings can be recalled based on camera and user information.

Operators must select the PTZ camera to control by clicking a video pane or selecting a radio button within the PTZ tool each time to transfer control from the previously controlled PTZ camera. The operator can also “lock” a camera. If a camera is locked, then the operator continues to control that camera, even if the feed from another camera is shown in the Display panel.

PTZ preset commands are mapped to USB joystick buttons, but not to mouse buttons. Presets are automatically mapped to each button in order. If the joystick has zoom controls, (twist) buttons 1 and 2 are mapped to zoom-in and zoom-out, and the rest of the buttons are mapped to presets in order. The Windows Game Controller in the Control Panel will show the numbers of the buttons if they are not labeled on the USB joystick.

You can enter preset labels on the PTZ Configuration panel for the IP/network or analog camera and have a maximum of 99 presets labels available per camera. Event triggers and schedules can be used to go to preset positions.

Note If schedules are not used, disable the schedule on the Schedules tab prior to configuring any presets.

The PTZ Configuration panel opens when you click **PTZ Configuration** on the side menu in the Administrator pages. This panel contains a help link and includes a table that lists the PTZ information. The links and actions are described in Table 4-19.

Table 4-19 PTZ Configuration Panel Links and Buttons

Item	Description
Help button	Open the online help system to display help for the specified item.
Search	Enter text and click **Search** to search all of the fields in the table for the entered string.
Table Columns	Displays the following information: • Preview—Small video image from the video, if one is available. • Camera Name (link)—Name that identifies the camera. Click the link to open the configuration panel. See Displaying Analog Camera Information, page 4-35 or Displaying IP/Network Camera Information, page 4-43 • Camera Type—Camera brand and model. • Camera Status—Indication of whether the camera is active (enabled). • PTZ Status—Indication of whether the PTZ functionality is enabled on the camera.
Export Data to CSV	Allows you export the PTZ settings to a comma-separated value (CVS file). See Editing or Deleting Analog Cameras, page 4-34 or Editing or Deleting IP/Network Cameras, page 4-41.
Action buttons	Allows you to perform the following actions: • Edit—Modify the camera information. See Editing or Deleting Analog Cameras, page 4-34 or Editing or Deleting IP/Network Cameras, page 4-41.

Exporting PTZ Settings

To export the PTZ settings to a CSV file, perform the following steps;

Procedure

Step 1 In the Administrator pages, click the **Export data to CSV** icon above the Action column.

Step 2 Click **Save** and enter a file name and location as prompted.

The system creates a CSV file with columns that match the columns on the PTZ Configuration panel, as in the following example:

```
"PTZ Enabled Cameras",,,,,,,,,
"Camera Name","Camera Type","Camera Status","PTZ Status"
"Axis 231D PTZ","AXIS 231D Network Dome Camera","Enabled","Enabled"
```

Entering the PTZ Settings

To configure PTZ settings, perform the following steps:

Procedure

Step 1 In the Administrator pages, click **PTZ Configuration**.

Step 2 Click the Edit icon for the item.

Step 3 Use the information in Table 4-20 to configure the settings.

Table 4-20 PTZ Configuration

Item	Description
PTZ Config tab	• Use the Pan and Tilt controls in the crosshair box and the vertical scale zoom controls to the right of the crosshairs. To zoom in, move the cursor up on the vertical scale. To zoom out, move down. Availability of the following PTZ settings depends upon the camera model. – Focus—Toggle between the close and distant view, or choose the Auto adjustment option. – Iris—Toggle between the light and dark iris, or choose the Auto adjustment option. – Night—Toggle between On (night) and Off (day), or choose the Auto focus option. – Backlight—Turn backlighting on or off. – Digital Zoom—Enable or disable digital zoom. – White Balance—Turn the automatic adjustment on or off to adjust for the indoor or outdoor environment. – Admin—Send an initialization command to VSMS or click Reset to return the PTZ view to the administratively configured default. – OSP—On-screen Programming (OSP) uses built-in camera menus overlaid on the video to configure settings for the camera. This is typically for analog cameras only. These controls are visible only if the camera driver indicates that the camera or protocol may support OSP. For example, the Pelco D driver currently enables this option, but a specific camera model may not. Click **OSP** to enter OSP mode and display the controls in the preview window. Use the Up and Down buttons, up and down cross-hair virtual joystick controls, or up and down on an attached USB joystick (easiest) to navigate within the on-screen menu in the video, and use Select and Cancel to enter or exit the current menu. Hitting **Cancel** when not selected (typically this means hitting it twice) will jump to the Exit menu. Note that OSP is available only in the Administrator pages.

Table 4-20 PTZ Configuration (continued)

Item	Description
PTZ Configuration (continued)	– Patterns—To add or edit a PTZ Pattern, first select a PTZ pattern from the drop-down menu (Pattern 1-8). Click **Record** to record the pattern and **Stop** to stop the recording. The pattern is saved on the camera and is played back when you click **Go**. The Go command will only affect cameras where that pattern has been defined. Some cameras may not support this feature. Check your camera documentation for specifics regarding the Pattern feature. Note that pattern recording is available only on the Administrator pages. Operators can play back but not record patterns. • Select from the drop-down list to enable or disable PTZ settings. • Select the following Pan/Tilt/Zoom settings for the mouse and joystick: – Pan (x)—Select the percentage speed for moving across the image in response to mouse or joystick input. – Tilt (y)—Select the percentage speed for tilting the image in response to mouse or joystick input. – Zoom (z)—Select the percentage speed for zooming the image in response to mouse or joystick input. • Set the PTZ preset configuration: **Note** If you do not plan to use schedules, disable the schedule on the Schedules tab prior to configuring any presets. – Use the PTZ crosshairs function or use the mouse to pan to the required view. When the position has been attained, enter a description for the first preset label (for example, West Lobby, or East Staircase). – Click the **Set Preset** button to save the parameters. Zoom levels are maintained for the created preset. Preset labels should indicate the camera view or location. Click Test to test and reset a current preset view. – Repeat to set additional presets. – Click **Finished**.

Table 4-20 PTZ Configuration (continued)

Item	Description
Schedules	**Note** Schedules are available only if they are preconfigured using the Schedules settings and the camera is PTZ-ready. See Managing Servers, page 4-2. Specify the following options to assign PTZ presets according to a schedule: • Enable—Activate the selected schedule. • Simple Schedule—Select a pre-defined schedule from the drop-down list. • Recurring Schedule—Select a pre-defined schedule from the drop-down list. • Default State Preset—Select the default preset to use when the video is displayed. • Default State Pattern—Select the default pattern to use. After the scheduled time, the pattern reverts back to the default. • Active State Preset—Select the preset to use when the video is active. • Active State Pattern—Select the active pattern to use. When the schedule time occurs, the pattern is played. • PTZ Priority—Determine the PTZ priority this camera will have relative to other cameras with set PTZ priorities. This functionality is used for simultaneous attempts to control the same PTZ camera. The camera with the highest PTZ priority prevails and the other is blocked. To add additional preset schedules, click **Add Another Preset**.

Table 4-20 PTZ Configuration (continued)

Item	Description
Schedules (continued)	To add additional preset schedules, click **Add Another Preset**. For Pelco Spectra IV camera (Pelco-D), specify the following options to associate PTZ patterns with schedules. You can configure a schedule to change a preset of the camera or to start a pattern. Each schedule can have a default state and an active state, and you can associate patterns with either of the states: • Enable—Activate the selected schedule. • Simple Schedule—Select a pre-defined schedule from the drop-down list. • Recurring Schedule—Select a pre-defined schedule from the drop-down list. • Default State Preset—Select the default pattern to use when the video is displayed. • Active State Preset—Select the pattern to use when the video is active. • PTZ Priority—Determine the PTZ priority this camera will have relative to other cameras with set PTZ priorities. This functionality is used for simultaneous attempts to control the same PTZ camera. The camera with the highest PTZ priority prevails and the other is blocked. To add additional preset schedules, click **Add Another Pattern**. Up to eight patterns are supported.
Rights	Verify the access rights for using PTZ settings: • Name—Displays the role name. Click the name link to open the Roles panel for the selected role. See Managing Roles, page 5-8. • Rights—Indicates that rights assigned to the role.

Managing Monitors

A monitor is a physical display screen that is used to display camera feeds.

To add a monitor, perform the following steps:

Procedure

Step 1 In the Administrator pages, click **Monitors**.

Step 2 Click **Add a New Monitor**.

Step 3 Use the information in Table 4-21 to configure the settings.

Step 4 Click the **Rights** tab and verify the access designations. See Managing Roles, page 5-8.

Step 5 Click **Submit**.

Table 4-21 Monitor Settings

Item	Description
Monitor Number	Enter an optional monitor number. This number is for assignments on a closed circuit television (CCTV) keyboard. Cisco recommends that if multiple operator workstations are in use, each monitor is assigned a number. Duplicate and “0” numbers are not permitted.
Monitor Name	Enter the monitor name. Cisco recommends that you use standard naming conventions.
Description	Enter applicable information about the monitor such as location or type. This field is optional.
Virtual Matrix	Select a server name from the drop down box. Available servers have been configured in the Add a New Server panel.
Seed View	Select a layout configuration. For information on configuring layouts, see Managing Pre-Defined Views, page 4-76.

Editing or Deleting Monitors

To change the monitor settings, perform the following steps;

Procedure

Step 1 In the Administrator pages, click **Monitors**.

Step 2 Click **Edit** icon for the monitor.

Step 3 Modify information on each tab as described in Managing Monitors, page 4-52.

Step 4 Click **Submit**.

To delete a monitor, perform the following steps:

Procedure

Step 1 In the Administrator pages, click **Monitors**.

Step 2 Click **Delete** icon for the monitor.

Step 3 Select the check box if you want to keep the monitor setup information on the server.

Step 4 Click **Yes**.

Displaying Monitor Information

To display the monitor configuration, perform the following steps;

Procedure

Step 1 In the Administrator pages, click **Monitors**.

Step 2 Click the name link for the monitor.

Step 3 Display information as described in Table 4-21.

Step 4 Click **Submit**.

Table 4-22 Monitor Information

Item	Description
Monitor Information	Display the following information; • Monitor Number—Option number used for assignments on a closed circuit television (CCTV) keyboard. • Monitor Name—Assigned monitor name. • VSVM Client Viewer Name—Assigned name for an associated virtual matrix client. • Virtual Matrix Server—Server that controls this monitor. Click the link to open the server information panel for the monitor. See Displaying Server Information, page 4-7.
Current View	Display the following information; • Dwell time—Amount of time that a rotating view remains before shifting to the next view, or Do Not Tour, if a dwell time is not configured. • Layout—Operator page layout used for the monitor. • Fixed Windows—Number of fixed windows in the layout. • Rotating Source List—List of the configured feeds for this monitor.

Managing Groups

Camera groups allow you to display and work with cameras feeds that have common characteristics such as location or type. Group membership is optional; you can add camera feeds to one group, multiple groups, or no groups. If a camera is in the top level, it is not in a group. Cisco recommends that you place cameras into their applicable groups when you first add the cameras.

The Groups Overview panel opens when you click **Group Overview** on the side menu in the Administrator pages. The panel contains the links and in Table 4-23.

Table 4-23 Group Actions

Item	Description
Drag and Drop Camera Groups	Add, rename, and delete groups, move cameras to different groups, and perform batch editing.
Search-Based Camera Groups	Configure camera group settings.
Help button	Open the online help system to display help for the specified item.

Manage Drag-and-Drop Groups

To manage drag-and-drop camera groups, perform the following steps:

Procedure

Step 1 In the Administrator pages, click **Group Overview**.

Step 2 Click **Drag and Drop Camera Groups**.

Step 3 Perform any of the following tasks:

- Batch edits—Drag and drop one or more cameras and/or groups to the right side of the panel to add them to the batch edit list. Click **Batch Administration**, configure fields in the pop-up window, and click **Submit**.

Note Click **Clear List** to remove all items from the batch editing list.

- Add a new group—Click the group that will be the parent group, or click **Top Level** if there will not be a parent group. Choose **Group** > **Add Group**, enter the group name, and click **OK** to add the group.
- Rename a group—Select the group and choose **Group** > **Rename Group**. Enter the new name, and click **OK**.
- Delete a group—Select the group and choose **Group** > **Delete Group**. Click **OK**.

Step 4 Click **Submit**.

Manage Search-Based Camera Groups

To manage search-based groups, perform the following steps:

Procedure

Step 1 In the Administrator pages, click **Group Overview**.

Step 2 Click **Search-Based Camera Groups**.

Step 3 Configure the information described in Table 4-24.

Note In the camera list on the panel, numbers in parentheses following the group name indicate the number of groups and cameras within the top level group. For example, (5/2) indicates that 5 groups and 2 cameras are available).

Table 4-24 Camera Group Configuration

Item	Description
Sidebar: Toggle	Use this link to show or hide the left navigation bar.
Window Height	Use this link to make the camera groups and preview window areas longer or shorter. For large camera lists, you may still need to scroll down to display the entire list. Click The Larger or Smaller links repeatedly to continue to resize the preview window. Adjust the width by placing the cursor over the scroll bar and dragging the arrow until the required size is attained.
Check Feed Matches	Enter a search parameter to search for specific feeds, or leave the text box blank and click **Check Feed Matches** to display the matching entries. Wild card characters are not permitted. Previously selected matches remain selected when you perform a revised search.
Uncheck All	Deselects all previously selected cameras in all groups. Groups will remain selected.
Add Group	Enter a new group name and click **Add Group** to add the group to the list.
Update Group Name	Select a group from the list, enter the new name, and click **Update Group Name**.
Copy Feeds	Click the icon to copy a camera feed. Make sure to have the camera feed to be copied selected in the group window and the group to copy to selected.
Move Feeds	Click the icon to move a camera feed. Make sure to have the camera feed to be copied selected in the group window and the group to move to selected.
Delete Group	Click the icon to delete a group. Make sure to have the group to be deleted selected in the group window.
Delete Feeds	Select the check box for the camera feed or feeds and click the icon on the right to delete the feeds. Deleted camera feeds are removed from the specified group, but remains in the system and any other groups to which it is assigned.

Managing Camera Feeds

You can display the available camera feeds in the system, including analog cameras with encoders and IP cameras. You can also create a new feed (a child field) that uses another feed's parameters as its source. When creating a child feed, you specify the source (parent) feed and the camera group membership and rights.

Note To add cameras, see Adding a New Analog Camera, page 4-30 or Adding a New IP/Network Camera, page 4-38.

The Camera Feeds panel opens when you click **Camera Feeds** on the side menu in the Administrator pages.

Use the edit icon to modify camera feed parameters such as JPEG framerate, camera group membership, and camera feed rights. Fields such as resolution and media type can only be changed by stopping the feed and creating a new one.

This panel contains a link to add a child feed. It also includes a table that lists information about the camera feeds along with links and action buttons. The links and actions are described in Table 4-25.

Note To prevent users from having PTZ access, grant permission to display the child feed but not the parent.

Table 4-25 Camera Feeds Panel Links and Buttons

Item	Description
Create a New Child Feed	Define a new IP/network camera.
Help button	Open the online help system to display help for the specified item.
Search	Enter text and click **Search** to search all of the fields in the table for the entered string.
Edit	Select one or more items in the list and click **Edit** to modify the selected items.

Table 4-25 Camera Feeds Panel Links and Buttons (continued)

Item	Description
Table Columns	Displays the following information about each camera feed: • Preview—Small video image from the video, if one is available. • Feed Name (link)—Name that identifies the camera feed. Click the link to display details and rights information. • Server Name—Name of the media server that manages this feed. • Child—Indication of whether this feed is a child feed. • Media Type— Displays the media type of the feed. • F/B Rate—Displays the frame rate and bitrate, which determine the amount of video data seen in a given amount of time. Frame rate is used to measure MJPEG streams, while bitrate is used with MPEG-2 and MPEG-4. Higher values represent more video data every second, which means smoother video and a more accurate representation of what is happening. In archive feeds, higher values result in larger file sizes. • Quality— Displays the quality setting of an MJPEG feed. Higher values represent higher quality frames at the cost of higher frame file sizes (which may result in a stream more difficult to stream in some cases). • Status—Indication of whether the camera feed is active (enabled).
Action buttons	Allows you to perform the following actions: • Edit—Modify the camera feed information. See Editing or Deleting Analog Cameras, page 4-34. • Delete—Remove the camera feed from the database. Editing or Deleting Analog Cameras, page 4-34.

Adding a Child Feed

To add a new child camera feed, perform the following steps;

Procedure

Step 1 In the Administrator pages, click **Camera Feeds**.

Step 2 Click **Create a New Child Feed**.

Step 3 Enter information on each tab as described in Table 4-26.

Step 4 Click the **Rights** tab and verify the access designations. See Managing Roles, page 5-8.

Step 5 Click **Submit**.

Table 4-26 Camera Feed Settings

Item	Description
Feed Into	Configure the following settings on this tab: • Camera Number—Enter an optional, unique camera number, which is for assignments on a closed circuit television (CCTV) keyboard. When multiple operator workstations are in use, we recommend that each workstation use unique camera numbers and feed names. • Feed Name—Enter a name for the feed. Cisco recommends that you choose a standardized naming convention. • Description—Enter an optional description. • Server—Select the server the camera feed will be linked to. • Status—Determine if the feed is to be enabled or disabled. Enabled permits feed control, while disable turns the feed control off without removing the feed from the list. • Parent Source—Select the camera to use as the source. • Frame Rate—Select the frame rate that the archive will record at (equal to or less than the parent framerate) if the selected parent source is a motion JPEG media type camera. The framerate determines the amount of video data seen in a given amount of time. Framerate refers to MJPEG streams, while bitrate is used with MPEG-2 and MPEG-4. Higher values represent more video data every second, which means smoother video and a more accurate representation of what is happening. In archive feeds, higher values result in larger file sizes.
Camera Groups	Add this camera to a group, or select Top Level (No Group) to indicate that you are not placing the camera in a group. Click a group link to display the subgroups and feeds in the group. See Managing Groups, page 4-55 for more information on camera groups.

Editing or Deleting Camera Feeds

To change the camera feed settings, perform the following steps;

Procedure

Step 1 In the Administrator pages, click **Camera Feeds**.

Step 2 Click **Edit** icon for the feed.

Step 3 Modify information on each tab as described in Adding a Child Feed, page 4-60.

Step 4 Click **Submit**.

When you delete a camera feed, the camera and child feeds associated with this feed are deleted and running archives are stopped. The system provides you with the option of leaving archive files on the server and keeping the event history.

To delete a camera feed, perform the following steps:

Procedure

Step 1 In the Administrator pages, click **Camera Feeds**.

Step 2 Click **Delete** icon for the feed.

Step 3 Select from the following options:

- Leave Archive data files on the server
- Keep Event History associated with this feed on the server

Step 4 Click **Yes**.

Performing Batch Administration Functions

The Batch Administration page allows you to add cameras and change multiple camera parameters at one time from a single page.

Note You must have one or more media servers configured in VSOM in order to view information on the Batch Administration page. If no media servers are defined, the page is blank. See Managing Servers, page 4-2 for instructions on adding media servers.

To perform batch administration on one or more cameras, perform the following steps:

Procedure

Step 1 In the Administrator pages, click **Batch Administration** to display the list of camera parameters.

Step 2 Perform any of the functions listed in Table 4-27.

Note The Batch Administration page will display changes to motion enabled and soft event enabled only when a camera feed is added using the Batch Administration page.

Table 4-27 Batch Administration Functions

Item	Description
Filter the camera list	**a.** Choose a parameter from the Filter drop-down list. **b.** Enter a keyword. Keywords are not case-sensitive, and there are no special search characters. **c.** Click **Search**. Click **Clear** to remove any keywords you have entered.
Open a preview window for the camera	Click the icon to the left of the camera name.

Table 4-27 Batch Administration Functions (continued)

Item	Description
Add a new camera	**a.** Enter the camera name in the field just camera list column headers. **b.** Click Add a new record. The camera is added to the list. **c.** Choose the camera type from the Analog/IP drop-down list. **d.** When you click to another field, an error message indicates that there are required fields to complete. Use the information in Table 4-26 to configure all required and any optional parameters. Move from left to right to configure parameters. Parameters that are not supported on a camera are shown with a lock icon and cannot be configured. **e.** Click Save All, or select the check box for the new camera, and click Save Selected. **Note** When you save a new analog camera, VSOM checks to see whether an encoder exists, with the specified host name/IP address. If such an encoder exists, VSOM uses it. If the encoder does not exist, VSOM creates a new encoder with that source type, and creates a primary feed with the specified information.
Add or change camera parameters	**Note:** You cannot modify any parameters that are displayed with a lock icon. **a.** Scroll across to the parameter field that you want o modify. **b.** Click the entry and enter or select a new value. Modify additional parameters as needed. See Table 4-28 for parameter descriptions. **c.** Click **Save All**, or select the check box for the entry you modified, and click **Save Selected**.
Saved Selected Values	Select check boxes for the cameras, and click **Save Selected**.
Save all values	Click **Save All**.
Restore previous values	Select check boxes for the cameras, and click **Revert Selected**. **Note** You cannot revert to previous values if new values have been saved.
Delete cameras	Select check boxes for the cameras, and click **Delete Selected**.
Reload the table, discarding any unsaved changes.	Click **Cancel**.

Table 4-27 Batch Administration Functions (continued)

Item	Description
Discard unsaved changes for selected rows.	Click **Revert Selected**.
Refresh the list with the latest settings.	Click **Refresh**.

Table 4-28 Batch Administration Parameters

Item	Description
Name	Name that identifies the camera.
Analog/IP	Camera type.
Source Type	For IP/network cameras, a list of camera models. For analog cameras, a list of encoders.
Description	Text description of the camera.
Hostname/IP Address	For IP/network cameras, the hostname or IP address of the camera. For analog cameras the IP address of the encoder.
User Name	Optional user ID for access to the camera.
Password	Optional password for access to the camera.
Channel	Video feed channel.
Media Server	Media server for the camera.
Media Type	Video format (JPEG or MPEG-4.)
Format	Media format (NTSC or PAL).
Resolution	Video resolution of the camera feed.
Transport	Transport protocol for the camera feed (TCP or UDP).
Multicast	Multicast address for UDP transport.
Framerate/ Bitrate	Frame rate or bit rate of the camera feed (seconds).

Table 4-28 Batch Administration Parameters (continued)

Item	Description
Quality	Setting that determines the quality of an MJPEG feed. Higher values represent higher quality frames at the cost of higher frame file sizes (which may result in a stream more difficult to stream in some cases).
PTZ	Indication of whether PTZ functionality is enabled (not supported for analog cameras).
Archive	Indication of whether an archive will be created automatically.
Archive Duration (days)	Duration for a continuous archive (accepts fractions, such as 1.5 days).
Archive Expiration	Interval after which the archive will expire.
Motion Configuration	Indication of whether VSOM will set up a motion configuration event. By default, creates a one hour loop archive for the event and a default window.
Reuse Archive for Motion	Indication of whether the original archive will be used for the motion event.
Motion Archive Expiration	Interval after which the motion archive will expire (disabled when a reuse archive is selected for motion and soft trigger).
Soft Trigger	Text that you enter to create a soft event trigger.
Reuse Archive for Soft	Indication of whether the original archive will be used for the soft trigger event.
Soft Archive Expiration	Interval after which the soft trigger event will expire.
Custom Fields	Custom fields (displayed only if custom fields have been defined for the camera). See Table 4-12.

Batch Administration Copy and Paste

VSOM allows you to copy and paste values from a spreadsheet template into the Batch Administration page. You can download the template, enter the camera configuration, and then copy the results into the Batch administration page.

The template includes the following worksheets:

- Use the CameraSetup worksheet to enter camera configuration information for multiple cameras. The worksheet includes drop-down lists to select appropriate parameters based on the camera types and models.
- Use the Copy&Paste worksheet to copy the configuration to paste into VSOM. This worksheet is populated automatically when you enter information in the CameraSetup worksheet.
- Use the Glossary worksheet to view comments on valid values.

Note We recommend using one template per Media Server. Do not copy and paste blanks, headings or other non-camera data into the Batch Administration page. If you do, VSOM will generate an error when you try to save. To remove blanks or other non-camera items from the list on the Batch Administration page, select the entries and click **Delete Selected**.

To use copy and paste to enter camera configurations for batch administration, perform the following steps:

Procedure

Step 1 In the Administrator pages, click **Batch Administration**.

Step 2 Click the **spreadsheet template** link at the top of the page and right-click to save the file on your computer.

Step 3 Open the spreadsheet template and choose **Save As** to save the template as an .xls file.

Step 4 Add configuration information for the cameras that you want to add to VSOM on the CameraSetup worksheet of the device.xlt template. This worksheet includes drop-down lists to help you specify the supported parameters.

Step 5 When you have finished entering the camera configurations, open the Copy&Paste worksheet. Notice that this worksheet has been updated automatically with the information from the CameraSetup worksheet.

Step 6 Select all of the rows that you want to copy, and choose **Ctrl+C** to copy the rows.

Step 7 On the Batch Administration page in VSOM, click in the **Add A New Record** field, and press **Ctrl+V** to paste the copied information. The new cameras are automatically added to the list.

Step 8 Verify and modify the new entries as needed.

Step 9 Select the entries you want to save and click **Save Selected**.

Step 10 Modify or delete any rows that have reported errors.

Managing Archives

Use the Managing Archives panel to set up and schedule video archives.

You can synchronize stopped or shelved archives from another server on a given VSOM simply by importing the server and synchronizing. After adding the server, the system checks every 10 minutes for stopped archives and automatically loads them.

You can recognize a shelved archive by opening the Viewable Archives list. The archive state is Stopped and the feed name column is blank.

The Archives panel opens when you click **Archives** on the side menu in the Administrator pages. This panel contains links to manage archives. The links described in Table 4-29.

Table 4-29 Archives Panel Links and Buttons

Item	Description
Start/Schedule a New Archive	Create a new archive.
Help	Open the online help system to display help for the specified item.

Table 4-29 Archives Panel Links and Buttons (continued)

Item	Description
Archive List Display Links	Click a link to open one of the following archive lists: • There are (N) Viewable Archives—Open the list of archives (N total). Archives with a looping schedule appear in this list. • There are (N) Viewable Archives—Open the list of archives (N total). • There are (N) Running Archives—Open the list of archives that are currently recording data (N total). • There are (N) Scheduled Archives—Open the list of archives that are currently scheduled to run (N total). • Looping schedules do not appear in the scheduled archives list. They are listed in the Viewable Archives list. • There are (N) Pending Archives or Clips—Open the list of archives or clips that are awaiting server notification of completion (N total). Pending scheduled archives start in the future.

Displaying Archive Lists

The columns in the archives lists are described in Table 4-30.

Table 4-30 Archives List Columns

Item	Description
Return to Archive Overview	Redisplay the main Archives panel
Help	Open the online help system to display help for the specified item.
Search	Enter text and click **Search** to search all of the fields in the table for the entered string.
Edit	Select one or more items in the list and click **Edit** to modify the selected items.

Table 4-30 Archives List Columns (continued)

Item	Description
Archive List	Click the check box in the column header to select or deselect all items in the list. Display or verify the following items: • Type—Variety of archive, such as clip, loop, BWM, or BWX. • Archive Name (link)—Name assigned to the archive. Click the link to display archive details, type, backup settings, and rights. • Feed Name—Name assigned to the camera feed, if there is an associated feed. • Server Name—Name of the media server for this archive. Click the link to open the Server panel. See Managing Servers, page 4-2. • Start Time—Date and time that the archive schedule becomes active. • Duration—Length of time that the archive clip runs. • End Time—Date and time that the archive clip stops being active. • Expiration—Termination time for the archive based on the archive schedule. The archive is automatically removed from the archived video list on the expiration date. If an archive is set to never expire, it remains on the list until it is deleted. • Archive State—Indication of whether the archive is running, stopped, or pending.
Action buttons	Allows you to perform the following actions: • Edit—Modify the camera feed information. See Editing or Deleting Analog Cameras, page 4-34. • Delete—Remove the camera feed from the database. Editing or Deleting Analog Cameras, page 4-34.

Adding a New Archive

To add a new archive, perform the following steps;

Procedure

Step 1 In the Administrator pages, click **Archives**.

Step 2 Click **Start/Schedule a New Archive**.

Step 3 Select the archive source. Click a group link to expand it, or click **Expand All** to show all of the group and subgroup members.

Step 4 Click **Next** to set up the archive.

Step 5 Enter information on each tab as described in Table 4-31.

Step 6 Click the **Rights** tab and verify the access designations. See Managing Roles, page 5-8.

Step 7 Click **Submit**.

Table 4-31 Archive Settings

Item	Description
Details	Configure the following settings on this tab: • Archive Name—Enter the archive name. Cisco recommends that you choose a standardized naming convention. **Note** VSMS will rename the feeds to include an <a_> in the file name and will convert special characters to compatible formats. • Description—Enter an optional description. • Status—Determine if the archive is to be enabled or disabled. Enabled permits the archive to run as scheduled. Disable turns the archive off without removing it from the scheduled list. • Force Start—Choose **Default** if you want the system to check whether if there is enough room for the archive. If you use the Default option, the archiving operation does not start if there is insufficient space. Choose **Force Start** to start the operation even if there is not enough space. If you choose **Force Start**, you must then provide additional space before the archive creations fills up the remaining disk space.
Details (continued)	• Keep on server—Specify the length of time (days, weeks, months or years) after recording that the archive should be stored on the server. • Archive Source—Displays the selected archive source. • Frame Rate—Select the frame rate at which the archive will record (equal to or less than the parent framerate) if the selected parent source is a motion JPEG media type camera. **Note** To preserve archive and backup space, you can configure a low frame rate for JPEG feeds. If you have an archive that was created from an event, you can edit the archive and adjust the frame rate.

Table 4-31 Archive Settings (continued)

Item	Description
Archive Type	Specify the type of archive schedule: • Simple schedule—Choose a start and end date and time to generate the archive. To specify additional dates and times, click **Add Date(s)**. The default schedule is a simple schedule that begins at the current time and ends one day later. • Recurring schedule—Specify information for a recurring archive. Recurring archives are one-time archives that are repeated on a defined schedule for a set period time or number of iterations. Select one or more days of the week, and choose the start time and end time. To include additional start and end times for the same day, click **Add Time Range**. To specify schedules for additional days of the week, click **Next Weekdays** and enter information for a different day. Finally, choose an option for ending the schedule. When a recurring archive runs for multiple days, weeks, or months, the archive is displayed as viewable and scheduled during the run time. • Continuous loop—Choose a duration for the continuously running archive. Video is continuously recorded in a loop of this duration. Looping schedules start as soon as they are submitted.
Backup	To create backups, a backup media server must be defined. See Adding a New Server, page 4-4. For additional information, see Creating Archive Backups, page 4-74. Specify a backup schedule: • Backup this Archive—Select the check box to activate the fields on this tab. • Backup Server—Choose the backup server from the Backup Server list. • Backup Start Time—Configure a start time for the backups (HH:MM). • Backup Expires—If you want the backup schedule to expire after a specified number of days, Select the **Backup Expires** check box and enter the number of days. After the expiration period, the system will delete the backups. • Backup Events Only—Select the **Backup Events Only** check box if you want to back up only events. If you do not select the check box, the entire archive is backed up.

Creating Archive Backups

When you create archives, the mechanism is in place to save video content. It is important to configure backups as part of the process if you want to preserve content in the event of system failure.

Each backup is for a 24 hour period, and subsequent backups are added to the same backup file. Because each backup is for 24 hours only, the parts of an archive that are older than 24 hours are not backed up. For this reason, it is recommended that you configure backups when you first define an archive.

When you create an archive, you can see the Backup tab and can configure remote backups. However, if an archive is created automatically, for example, when Record Now is used (see Table 5-7 in Managing Events, page 5-15), the Backup tab is not visible and the archive is not backed up. In this case, you must open the created archive and configure the Backup tab manually.

Note To back up all data without any interruption, you must configure the Backup tab within 24 hours of creating the archive.

After backups have started occurring, you can open the Backup tab for the archive and display the information in the Backup Details area. The information is for the last executed backup for that archive.

For instructions on creating a backup server, see Adding a New Server, page 4-4. For instructions on setting up backup for an archive, see Adding a New Archive, page 4-71.

Editing or Deleting Archives

You can change the name and description of a archive, backup settings, and settings for schedules that have not yet been activated. For schedules that have started, you can change only the end date.

If an archive has been created automatically, you must open the created archive and configure the Backup tab. To back up all data without any interruption, you must configure the Backup tab within 24 hours of creating the archive.

When an archive is edited or deleted in the viewable archive list, other archives in the list with the same name are unaffected.

To change archive settings, perform the following steps;

Procedure

Step 1 In the Administrator pages, click **Archives**.

Step 2 Open the archive list (Viewable, Running, Scheduled, or Pending).

Step 3 Click **Edit** icon for the archive.

Step 4 Modify information on each tab as described in Adding a New Archive, page 4-71.

Note In Edit mode, the Details tab includes a View Video Settings button. When you click the button, the system reads the video setting information that is actually being used to create the archive. For MPEG files, bit rate is shown; for JPEG files, frame rate is shown.

Step 5 Click **Submit**.

To delete an archive, perform the following steps:

Procedure

Step 1 In the Administrator pages, click **Archives**.

Step 2 Click the **Delete** icon for the archive.

Step 3 Select the check box if you want to keep the archive data files on the server.

Step 4 Click **Yes**.

Managing Pre-Defined Views

You can configure pre-defined views for the Operator page. A view includes configured video sources, display layout, and associated behavior.

The Views panel opens when you click **Views** on the side menu in the Administrator pages.

This panel contains a link to add a new view. It also includes a table that lists information about the camera feeds along with links and action buttons. The links and actions are described in Table 4-32.

Table 4-32Views Panel Links and Buttons

Item	Description
Add a New View	Define a new user view.
Help button	Open the online help system to display help for the specified item.
Search	Enter text and click **Search** to search all of the fields in the table for the entered string.
Table Columns	Displays the following information about each view: • #—View number, which is used for assignments on the CCTV keyboard. • Layout—Icon that represents how video images are displayed. • Fixed Windows—Icon that shows any fixed section of the layout (shown in red). • View Name—Name that identifies the view. • Feeds—Number of feeds included in the view. • Media Type— Displays the media type of the feed. • Operator Lists—Elements included in the Operator page. • Default Frame Rate—Frame rate used by default for each video pane. No cap means that the default frame rate is determined by the source video. • Camera Tour—Indication of whether the camera rotates between video panes (with the number of seconds, or dwell time, between rotations) or does not tour (move from pane to pane).

Table 4-32Views Panel Links and Buttons (continued)

Item	Description
Action buttons	Allows you to perform the following actions: • Edit—Modify the view information. See Editing or Deleting Analog Cameras, page 4-34. • Delete—Remove the camera feed from the database. Editing or Deleting Analog Cameras, page 4-34.

Adding a New View

To add a new view, perform the following steps;

Procedure

Step 1 In the Administrator pages, click **Views**.

Step 2 Click **Add a New View**..

Step 3 Enter information on each tab as described in Table 4-33.

Step 4 Click the **Rights** tab and verify the access designations. See Managing Roles, page 5-8.

Step 5 Click **Submit**.

Table 4-33 View Settings

Item	Description
Details	Configure the following settings on this tab: • View Number—Enter the view number. This number is for assignments on the CCTV keyboard. It is recommended that when multiple operator workstations are in use, each workstation use unique view numbers and names. Duplicate and 0 numbers are not permitted. • View Name—Enter the view name. It is recommended that naming convention standards be utilized for ease of use throughout the application. • Description—Enter an optional description.

Table 4-33 View Settings (continued)

Item	Description
Details (continued)	• Camera Tour—Select the camera tour type. – Fixed. Select if only a single point of view is required to be displayed in the pane. Fixed is the default selection. – Rotate (dwell time). Select if a rotating view is required every x seconds prior to rotating to the next source/view. Recommended if a multiple layout view is selected. The view dwell time/seconds can be increased/decreased via the operator toolbar. The default is five seconds. This field is optional. • Choose Layout—Click the a layout to select it. When you click a layout, the pane properties are displayed as follows: – Fixed—Source will display a single point of view. – Live—Source will display a live (rotating or fixed) view. – Archive—Source will display an archived view. The DVR mode is available for the following layouts: 1x1 (pane 1) 1x2 (pane 1) 1x2x3 (pane 1) 1x3x4 (pane 1) 2-1 (pane 1) 2-4 (pane 1) 2x1 (pane 1) 2x2 (pane 1) 2x3x6 (pane 1)

Table 4-33 View Settings (continued)

Item	Description
	• Pane Properties—For the red highlighted panes, determine and select the view to be fixed live or fixed archive view. • Default Framerate—Select a value to implement a framerate cap for all configured MJPEG streams. This is useful in limiting the bandwidth requirements of remote users. **Note** When a user toggles to the enlarged mode, framerate caps are removed. • Operator Lists—Select the check box to display all views available to operators in their view list. When unselected, views will not display in the operator's list but will be displayed in the events and administrator lists. • Default Display Options—Choose the title bars (must be selected to display status), video tools, timestamps, scrollbars, and fixed aspect available in the Operator page. These are set up in the Operator page. • Rotating Source List—Source rotation is the randomly rotating reservoir of camera views from which display panes are shown and works by randomly displaying previously configured views in the operator layout widow.Source rotation is useful for operators who are required to monitor more camera locations than the currently configured view permits. Expand the list to display all configured feeds and check the applicable boxes to associate the feed to the view layout.

Editing or Deleting Views

To change the view settings, perform the following steps;

Procedure

Step 1 In the Administrator pages, click **Views**

Step 2 Click **Edit** icon for the view.

Step 3 Modify information as described in Adding a New View, page 4-77.

Step 4 Click **Submit**.

To delete a view, perform the following steps:

Procedure

Step 1 In the Administrator pages, click **Views**.

Step 2 Click **Delete** icon for the view.

Step 3 Click **Yes**.

Displaying View Settings

To display settings for a view, perform the following steps:

Procedure

Step 1 In the Administrator pages, click **Views**.

Step 2 Click the link for the view to display the information in Table 4-34.

Table 4-34 View Details

Item	Description
Details tab	Display the following items: • View Number—User-assigned number for assignments on the CCTV keyboard. • View Name—User-assigned view name. • Status—Indication of whether the view is available for use (enabled) or kept but unavailable (disabled). • Camera Tour—Indication of how the point of view in the view is determined. • Layout—Icon representing the type of layout. • Fixed Windows—Icon representing the fixed windows in the layout in red. Click the link to open the camera feed panel for the fixed source. • Default framerate—Indication of the maximum default frame rate. No cap means that the rate is determined by the video source. • Operator Lists—Indication of whether the view is displayed in the list of views on the Operator page. • Default Display Options—List of the display elements included in the Operator page. • Rotating Source List—Indication of which feed is used as the rotating video source. Click the link to open the camera feed panel for that source.
Rights	Verify the access rights for this view: • Name—Displays the role name. Click the name link to open the Roles panel for the selected role. See Managing Roles, page 5-8. • Rights—Indicates that rights assigned to the role.

CHAPTER 5

Administering the System

This chapter describes how to manage VSOM user accounts, system settings, and system utilities.

- Managing Users, page 5-2
- Managing Roles, page 5-8
- Managing Events, page 5-15
- Managing Schedules, page 5-27
- Configuring System Settings, page 5-32
- Generating Reports, page 5-34
- Displaying System Overview Information, page 5-36
- Importing Devices, page 5-36
- Managing Software and Downloads, page 5-38
- Backing up the Database, page 5-38
- Creating Custom Field Labels, page 5-40

Managing Users

The following options are supported for managing user access to VSOM:

- Local login/password—Maintain local user login accounts on the VSOM server.
- LDAP—Use existing Lightweight Directory Access Protocol (LDAP) services to manage user access. When you use this option, you cannot change the user password through the VSOM interface.

The Users panel opens when you click **Users** on the side menu in the Administrator pages. This panel contains links to manage users. It also includes a table that lists information about users along with links and action buttons. The links and actions are described in Table 5-1.

Table 5-1 Users Panel Links and Buttons

Item	Description
Add User	Define a new user account.
Edit User Custom Field Labels	Click to create custom fields to store and display additional information. See Creating Custom Field Labels, page 5-40
Help button	Open the online help system to display help for the specified item.
Search	Enter text and click **Search** to find an item in the table.
Table Columns	Displays the following information about each user: • User Name—Name that the user users to log into VSOM. • Name—First and last name of the user. • Email—User email address. • Roles—Assignment of user roles. • Last Login—Date and time of the last login session for this user. • Parent Server—Parent server for this user account, if one is defined. See Managing Parent/Child Servers, page 4-12. • Status—Indication of whether the user has system access (enabled) or is denied access. Users are immediately logged out if their user status changes to disabled.

Table 5-1 Users Panel Links and Buttons (continued)

Item	Description
Action buttons	Allows you to perform the following actions: • Edit—Modify the user information. See Editing or Deleting Users, page 5-5. • Delete—Remove the user from the database. Editing or Deleting Users, page 5-5.

Adding a User

To add a new user, perform the following steps:

Procedure

Step 1 In the Administrator pages, click **Users**.

Step 2 Click **Add User**.

Step 3 Configure user settings as described in Table 5-2. You must configure settings on the Details and Roles tabs.

Step 4 Click **Submit**.

Table 5-2 User Settings

Item	Description
Details	Configure the following settings on this tab: • User Name—Specify the user login. • Local Password or LDAP—Choose whether to enter a local password or use LDAP services. Passwords are required to contain a minimum combination of six characters. You can use local in addition to LDAP on a VSOM; for example, to provide an account to a user who is not part of your LDAP structure. • First Name—Enter the user's first name. • Last Name—Enter the user's last name. • Description—Enter an optional description. • Email—Enter an optional email address. • Status—Determine if the user account is enabled or disabled. A user must be enabled to access the system. • Default View—Select the preferred default pre-defined view from the drop down box. See Managing Pre-Defined Views, page 4-76 for information on configuring views.
Scheduling	Only one schedule, per user, per configuration, can be assigned at a time. The schedule determines user access based on days and times: • Default State—Determine the state entities should return to when the schedule is not running. • Simple Schedule—Assign to simple schedule as applicable. • Recurring Schedule—Assign to recurring schedule as applicable.
Custom Fields	Add values for any custom fields that have been defined (see Table 5-1).
Role	Select check boxes to assign roles to the user. Click the **Role Name** link to open the Roles panel.

Editing or Deleting Users

To change the user settings, perform the following steps;

Procedure

Step 1 In the Administrator pages, click **Users**.

Step 2 Click **Edit** icon for the user.

Step 3 Modify information on each tab as described in Adding a User, page 5-3.

Step 4 Click **Submit**.

The user parent user (parent user) is governed by the parent server. Users that are governed by a parent server cannot be deleted.

To delete a user, perform the following steps:

Procedure

Step 1 In the Administrator pages, click **Users**.

Step 2 Click **Delete** icon for the user.

Step 3 Click **Yes**.

Displaying User Information

To display the user information, perform the following steps:

Procedure

Step 1 In the Administrator pages, click **Users**.

Step 2 Click the name link for the user to open the configuration panel, Details tab.

Step 3 Display the information in Table 5-3.

Table 5-3 User Information

Item	Description
Details tab	Display the following items: • User Name—Name that the user users to log into VSOM. • Status—Indication of whether the user has system access (enabled) or is denied access. Users are immediately logged out if their user status changes to disabled. • First Name—Given name of the user. • Last Name—Surname of the user. • Description—Optional description. • Email—Optional email address. • Default View—Layout that the user sees by default when opening the Operator page.
Scheduling	Information about schedules to which the user is assigned.
Custom Fields	Settings of any custom fields that have been defined.
Rights	Roles defined for the user. The roles tab is used to select the roles for the user. It is possible for a user to be a member of multiple roles. Users who do not have rights or permissions to network resources will not see them during when logged in. **Note** If a user creates a role, the user automatically becomes a member of the role.

Working with LDAP

Lightweight Directory Access Protocol (LDAP) is used to access directory servers. These servers access a specific type of database that holds information in a tree structure, similar to a hard disk directory structure. Administrators can navigate to the subdirectory using path names similar to /usr/local/myapp/docs.

VSOM does not import groups or users from the LDAP server. Create each LDAP user in VSOM and assign LDAP authentication (not local authentication). The user name assigned for VSOM must be identical to the username in the LDAP system.

Use the Video Surveillance Management Console to set up VSOM to work with an LDAP server.

The parameters are listed in Table 5-4.

Table 5-4 LDAP Parameters

Item	Description
LDAP_HOST_NAME	The Server host name/IP address of the LDAP server. Example: ds.cisco.com
LDAP_HOST_PORT	Optional parameter. If the LDAP_HOST_PORT is not specified, the connection will default to port 389. Example: 3268
LDAP_RDN_DN	LDAP Distinguished Name or Relative Distinguished Name. The string %username% will be replaced dynamically, based on the username provided in the OM login screen. This parameter is unique per company. Example: CN=%username%,OU=Employees,OU=cisco users
LDAP_DCS	A ";" separates the list of domain controllers in order of precedence. The system will verify the authentication bind against the first domain controller (in the example below DC=amer,DC=cisco,DC=com). If authentication fails, verification against the DCs will continue until a successful bind has been achieved or there are no more domain controllers. Example: DC=amer,DC=cisco,DC=com;DC=euro,DC=cisco,DC=com

Managing Roles

A role defines a group of permissions and rights and defines a user's permissions and rights within the system. Users are granted system permissions and rights by being members of roles. All users must be a member of at least one role and can be a member in up to 100 roles.

Administrators define user roles by specifying rights and assigning users to various roles. Users that do not have rights to network resources will not see them during their login periods.

Default roles include:

- Administrator—A role with authority to manage and display most all system resources. Can assign root-level access.
- Operator—A role with limited authority, normally only to display a limited portion of system resources such as cameras and archives they are tasked with monitoring.
- View Only—A role with no authority, can only switch between views.

For example, it is possible to have manage permissions for camera feeds but have no rights for others. This mean that some camera feeds will not be listed in the left menu of the operator screen or displayed in camera feeds in the Administrator pages. Therefore, this role would be able to only manage the camera feeds for the rights given.

Roles: Permissions and Rights

Each user role has associated permissions and rights. Permissions provide the ability to act on camera feeds and perform other general functions, while rights restrict the ability to perform such functions. For example, an installer may have general permission to act on camera feeds but have restricted rights to do so only for certain cameras.

Note The role with the most permissions and rights takes precedence over any other roles.

There are separate permissions for controlling the use of each of these functions with several exceptions. There is a single permission for cameras that controls permissions for analog and IP Cameras. There are permissions for archive clips, archive local clips, and preferences. Each permission can be set to None, View or Manage.

The user must have View permissions for the admin icon or link to be displayed on the Operator page. With View permissions, the administrative icon is displayed, but the user cannot edit any settings. With administrator permissions, users can add and edit settings of functions that already exist.

For roles with Administrator privileges, permissions always take precedence over the rights. This means that when a role has Administrative permissions but restricted rights, the permissions take precedence.

For roles without Administrator privileges, only the rights for archives, camera feeds, monitors, and encoders are applicable. The camera feed rights determine which camera feeds are visible in the left navigation toolbar.

Examples:

- Permissions: None, Rights: None

  The administrative icons for the resource will not be displayed and individual items will not be displayed in the left navigation toolbar.

- Permissions: None, Rights: Manage

  The administration icons for the resource will not be displayed and the individual items with View rights will be displayed in the left navigation toolbar. Note that the use of Manage rights in this case adds no additional capabilities.

- Permissions: Manage, Rights: View

  The administration icon for the resource will be displayed and the individual items with View rights will be listed inside the administration icon and in the left navigation toolbar. This permits a role with Administrator privileges to display the settings for some resources.

Roles Panel

The Roles panel opens when you click **Roles** on the side menu in the Administrator pages.

This panel contains a link to add a role. It also includes a table that lists information about roles along with links and action buttons. The links and actions are described in Table 5-5.

Table 5-5 Roles Panel Links and Buttons

Item	Description
Add New Role	Define a new user account.
Help button	Open the online help system to display help for the specified item.
Search	Enter text and click **Search** to find an item in the table.
Table Columns	Displays the following information about each role: • Role Name—Name assigned to the role. • Description—Optional description. • Pseudo Root—Indication of whether the user has full (superuser) access to the system. • Administrative Preferences—Indication of whether the user has access to the Administrator pages. • View Only—Indication of whether the user has access only to predefined views in the Operator page. • PTZ Priority—Determine the PTZ priority this role will have relative to other roles with set PTZ priorities. This functionality is used for simultaneous attempts to control the same PTZ camera. The role with the highest PTZ priority prevails and the other is blocked. Roles with PTZ priority of 0 are not able to control PTZ cameras. • Users—Number of users that are assigned this role. • Status—Indication of whether the role will be available to be assigned to users (enabled) or not available for assignment (disabled).

Table 5-5 Roles Panel Links and Buttons (continued)

Item	Description
Action buttons	Allows you to perform the following actions: • Edit—Modify the role information. See Editing or Deleting Roles, page 5-13. • Copy—Define a new role with settings based on the selected role. See Copying an IP/Network Camera, page 4-42. • Delete—Remove the user from the database. Editing or Deleting Roles, page 5-13.

Adding a Role

To add a new role, perform the following steps;

Procedure

Step 1 In the Administrator pages, click **Roles**.

Step 2 Click **Add New Role**.

Step 3 Configure settings as described in Table 5-6.

Step 4 Click **Submit**.

Table 5-6 Role Settings

Item	Description
Details	Configure the following settings on this tab: • Role Name—Enter a name to identify the role • Description—Enter an optional description • Status—Select whether the role will be available to be assigned to users (enabled) or not available for assignment (disabled). • PTZ Priority—Determine the PTZ priority this camera will have relative to other cameras with set PTZ priorities. This functionality is used for simultaneous attempts to control the same PTZ camera. The camera with the highest PTZ priority prevails and the other is blocked. • Pseudo Root—Select the check box to provide full (superuser) access to the system. Permissions are the same as for the root user but permit personalization of login information. • Administrative Preferences—Select the check box to allow access to the Administrative view. • View Only—Select the check box to restrict user access to predefined views in the Operator page. • View Options—Select the check box to not allow this role to override the user's display options. User assigned only this role are not permitted to modify the Operator page configurations. Leave this box unchecked to permit operators to create their own views.
Users	Select the users who will have this role. Click the **User Name** click to display the user settings. Users that belong to a child server cannot be modified from the parent server.
Scheduling	Use this tab to enable or disable roles based on a schedule. Select from the following drop-down lists: • Default State—Determine the state entities should return to when the schedule is not running. • Simple Schedule—Assign to simple schedule as applicable. • Recurring Schedule—Assign to recurring schedule as applicable.

Table 5-6 Role Settings (continued)

Item	Description
Permissions	Use this tab to determine the general functions included in this role. For each function in the Right Type list, choose one of the following options: • None—No access to this function. Any associated GUI elements such as preferences, archive clips, and archive local clips are not displayed. • View—Read-only access to this function. Add, edit, and delete functions, icons, and links are not displayed. • Manage—Read/write access to this function. Click **All** to select all of the entries in the column.
Rights	Use this tab to assign detailed rights. Click + to expand an area or - to collapse the area. For each item in the list, choose one of the following options (click All to select all items in a column): • None—No access to this item or area. Any associated GUI elements such as preferences, archive clips, and archive local clips are not displayed. • View—Read-only access to this item or area. Add, edit, and delete functions, icons, and links are not displayed. • Manage—Read/write access to this item or area.

Editing or Deleting Roles

To change the role settings, perform the following steps;

Procedure

Step 1 In the Administrator pages, click **Roles**.

Step 2 Click **Edit** icon for the role.

Step 3 Modify information on each tab as described in Adding a Role, page 5-11.

Step 4 Click **Submit**.

To delete a role, perform the following steps:

Procedure

Step 1 In the Administrator pages, click **Roles**.

Step 2 Click **Delete** icon for the role.

Step 3 Click **Yes**.

Copying a Role

You can copy settings to create a new role with the same values as a selected role. When you do so, the permissions are inherited from the originating role.

To copy role settings, perform the following steps:

Procedure

Step 1 In the Administrator pages, click **Roles**.

Step 2 Click the **Copy** icon for the role.

Step 3 Use the information in Table 5-6 to specify information about the copies.

Step 4 Click **Submit**.

Displaying Role Information

To display the role settings, perform the following steps:

Procedure

Step 1 In the Administrator pages, click **Roles**.

Step 2 Click a name link to open the configuration panel and display the information described in Adding a Role, page 5-11.

Managing Events

By creating events, you can implement notification of occurrences such as audible and visual alarms, updates to the event notification log, switching monitor views, and sending preset commands.

Events listen for incoming triggers. When a trigger is received, a notice is sent to a designated URL or email. Administrators can set up pre-defined views, move PTZ cameras, start archives, and send instant email alerts when an event notification is received.

The Events panel opens when you click **Events** on the side menu in the Administrator pages.

This panel contains links to manage events. It also includes a table that lists information about events along with links and action buttons. The links and actions are described in Table 5-7.

Table 5-7 Events Panel Links and Buttons

Item	Description
Add New Event	Define a new event.
Enable Bookmark Event	Click the bookmark icon to enable the bookmark functionality. This takes the time that you clicked the icon and dynamically creates a pre-defined view from what you are currently displaying. It creates an event history record for that view and that time.

Table 5-7 Events Panel Links and Buttons (continued)

Item	Description
Enable Events for Record Now	To use the Record Now feature in the Operator page, you must enable the feature on the Events panel in the Administrator pages. Click this link, and the event is automatically created and added to the event list.
Help button	Open the online help system to display help for the specified item.
There are (N) Triggered Events	Display the list of event histories that the system has received.
Purge Event History	Remove event history. To remove previous events, click the link, specify a date range, and click **Yes**.
Manage Flag Labels	Update labels for event flags.
Search	Enter text and click **Search** to find an item in the table.
Table Columns	Displays the following information about each event: • Flag—Icon indicating the severity of the event. • Event Name—Name that identifies the event. Click the link to display the event settings. • Event Server—Media server that generated the event. Click the link to open the server panel. • Event Type—Indication of whether the event trigger is soft (such as a URL, email, or screen message) or external (such as a badge reading or door opener)> • Status—Indication of whether the event is available for reporting (enabled) or not available for reporting (disabled). • Test—Icon that, when clicked, sends a test message as if the event occurred.
Action buttons	Allows you to perform the following actions: • Edit—Modify the event information. See Configuring, Editing, and Deleting Events, page 5-19. • Delete—Remove the event from the database. Configuring, Editing, and Deleting Events, page 5-19.

Adding an Event

To add a new event, perform the following steps;

Procedure

Step 1 In the Administrator pages, click **Event**.

Step 2 Click **Add a New Event**.

Step 3 Configure settings as described in Table 5-8.

Step 4 Click **Submit**.

Table 5-8 Event Settings

Item	Description
Details	Configure the following settings on this tab: • Event Name—Enter a name to identify the event. Cisco recommends that you choose a standardized naming convention. • Description—Enter an optional description. • Server—Choose the media server to manage the event. • Status—Select whether the event will be available to be triggered (enabled) or not available (disabled). • Default Flag—Select a flag that represents the severity of the event. The information bubble represents the lowest severity and the exclamation symbol represents the highest severity. Select one of the following options to trigger the event: • Device Trigger—Select to trigger the event based on an external device (such a a building fire system or outdoor motion sensor). When you click **Submit** to add the event, the following are displayed: – Encoder/IP Camera—Select the encoder or camera from the drop-down list. – Channel—Enter the channel number of the feed that triggers the event. – Default State—Choose whether the event is triggered based on a rising state (increase in power) or falling state (decrease in power). • Enable Soft Trigger—Select if the trigger will be a soft event (URL notification from a third party application or device). When you click **Submit**, a link is displayed to test the event. Note that this trigger does not affect PTZ operations. • Enable Motion Configuration—Select to trigger the event based on motion detection. Select the feed from the drop-down list.
Motion Config	This tab is visible after the event is created, only if Enable Motion Configuration is selected on the Details tab.
Motion Start	This tab is visible after the event is created, only if Enable Motion Configuration is selected on the Details tab.
Motion Stop	This tab is visible after the event is created, only if Enable Motion Configuration is selected on the Details tab.

Table 5-8 Event Settings (continued)

Item	Description
Setup Rights	Select the roles that permit access to the event setup panels.
History Rights	Select the roles that permit access to the triggered events.

Configuring, Editing, and Deleting Events

After you add an event, you must edit it to complete the configuration.

To configure or modify an event, perform the following steps;

Procedure

Step 1 In the Administrator pages, click **Events**.

Step 2 Click **Edit** icon for the event.

Step 3 Configure information on each tab as described in Table 5-9. The tabs that are visible depend on the type of event and the task you are performing.

Step 4 Click **Submit**.

Table 5-9 Event Configuration

Item	Description
Details	Verify the settings on this tab as described in the table in Adding an Event, page 5-17.
Operator View	Select the check box to enable the ability and select a view. This function changes the Operator page based on the configured layout. It associates the pre-defined view with the event record. If you check the **Change Operator's View** check box and select a pre-defined view, an entry is included for this event in the View column of the event inbox, and you can click to display the view. A notification also appears at the bottom of the video panel in the Operator page when the event video is viewed. Clicking the notification opens the view.

Table 5-9 Event Configuration (continued)

Item	Description
Archives	Select the check box and configure settings if you want to create an archive clip when the trigger is activated: • Start Archives—Select the check box create the archive clip, Select up to 10 archives to automatically start clipping upon an event trigger. This is useful when only event data must be backed up for an archive. See Creating Archive Backups, page 4-74 for more details on backups. **Note** The number of days to store archives applies only to the selected feeds. • Data Options—Select the amount of time to be recorded and archived prior to and after the event. • Storage Options—Configure the following storage options: – Store each archive for—Select the number of days to store the archived event, or choose **Never Expire** to keep the archive indefinitely. – Overlap—Select if you do NOT want to permit archiving of overlapping events. – Record At— Select the framerate to record (JPEG sources only). Reducing the framerate reduces the required storage space. Framerate cannot exceed the framerate of the source.

Table 5-9 Event Configuration (continued)

Item	Description
Alerts	Configure the alerts to be sent when the event is triggered: • Web-based alerts—Determine if events notification will be sent through an on-screen message on the Operator page or logged in the Event History Report, or both. Operators are notified only if the event is to be logged. • Enable URL Notification—Enter the URL where the event notification will be sent. Unlimited URL notifications are permitted and priority is based on input order. These notifications will be sent prior to email notifications. When there is a software trigger, the camera will PTZ to the preset. The value input here is the same URL that instructs the to PTZ the camera to the applicable preset. • Enable Email Notification—Enter the event notification recipients, subject, and body text sent when an event is triggered. All of the email fields are required.
PTZ Presets	Enable the PTZ preset option and select the camera name, preset label, and PTZ priority as applicable. The drop-down list options are available only if the camera and presets are configured. To add additional presets, click **Add Another Preset**.
Monitors	Select the monitor and view to display when the event is triggered. The view in the Operator page will change. Events can trigger multiple monitors to switch to specified views. If no monitors are defined, click **Add a New Monitor and Associated View**.
Schedules	Choose an option if you want to allow the event to trigger based on a schedule. • Simple Schedule—Select a pre-defined schedule from the drop-down list. • Recurring Schedule—Select a pre-defined schedule from the drop-down list.
Setup Rights	Confirm the roles that permit access to the event setup panels.
History Rights	Confirm the roles that permit access to the triggered events.

To delete an event, perform the following steps:

Procedure

Step 1 In the Administrator pages, click **Events**.

Step 2 Click **Event** icon for the event.

Step 3 Click **Yes**.

Setting Up Record on Motion Events

If you have an IP or analog camera that supports motion detection, you can configure VSOM to automatically record or stop recording when motion is detected. After the camera is added, you can create an event and enable the motion configuration option. To add a camera and enable motion detection on it, see Adding a New Analog Camera, page 4-30 or Adding a New IP/Network Camera, page 4-38.

To create and enable a record on motion event, perform the following steps:

Procedure

Step 1 In the Administrator pages, click **Events**.

Step 2 Choose **Add a New Event**.

Step 3 Select the **Enable Motion Configuration** button and select a feed from the drop-down list.

Step 4 Configure the event settings as described in Adding an Event, page 5-17, and click **Submit**.

The event is saved, and the panel reopens to display additional tabs.

Step 5 To set up active and inactive windows for motion detection, open the Motion Config tab and configure settings as described in Setting Up Windows for Motion Detection, page 5-25.

Step 6 Configure settings on the Motion Start and Motion Stop subtabs described in Table 5-10.

Step 7 Click **Submit**.

When motion is detected, an event is listed in the events table in the Operator page. If you selected a feed, then the display shows the associated archives on the left menu. Make sure that you click **Refresh** to update the display, if necessary. If you defined a view, an icon is displayed.

Table 5-10 Motion Start and Motion Stop Configuration

Tab	Description
Operator View	Indicate if you want the Operator page display to change when motion starts and stops. If you choose to change the view, select the new view. Select the check box to enable Operator page notification and select a view. This function changes the view based on the configured layout.

Table 5-10 Motion Start and Motion Stop Configuration (continued)

Tab	Description
Archives	To create an archive clip when the trigger is activated, select the **Start Archives** check box to set the archive settings. The number of days to store archives applies only to the selected feeds. For clips that are created by events on running archives, the number of days is the same as for the archive. • Archives—Select up to 10 archives to automatically start clipping upon an event trigger. This is useful when only event data must be backed up for an archive. See Creating Archive Backups, page 4-74 for more details on backups. • Data Options—Enter the number of seconds before and after the event to include in the recording. • Storage Options: – Select the number of days to store the archived event, or set the archive to never expire. – Select whether you want to prohibit overlapping events. – For motion JPEG sources only, select the framerate for the recording. The framerate cannot exceed the framerate of the source. **Note** The number of days to store archives applies only to the selected feeds. For clips that are created by events on running archives, the number of days is the same as for the archive. **Note** When you save the archive settings, a continuous loop archive is automatically created. If you are adding to an existing archive, make sure it is an archive that will capture the motion. If you are not sure, then select a feed for a new archive. Because record on motion is an event, you can choose to update archive only when the event occurs.
Alerts	Configure alerts as would for other events. See Table 5-9.
PTZ presets	Enable PTZ as you would for other events. When the record on motion event is triggered, the camera is positioned to these settings. If you are creating archives for more than one camera, you can specify multiple PTZ settings. See Table 5-9.
Monitors	Configure these as you would for other events, if you are using monitors. See Table 5-9.

Setting Up Windows for Motion Detection

Each video channel on VSES supports configurable motion detection. You can configure multiple windows and masks to be used simultaneously and with overlap.

- Motion in an active (non-mask) window is subject to detection.
- Motion in an inactive (mask) window is excluded from detection.

Window creation order is important. When a mask new window is created below an active (not masked) window in the window list, the mask window affects only the active window immediately above it. If a mask window is created prior a new active (not masked) window, the mask window will not affect that or any window.

When motion is detected, an event is listed in the events table in the Operator page. If you selected a feed, then the display shows the associated archives on the left menu. Make sure that you click **Refresh** to update the display, if necessary. If you defined a view, an icon is displayed.

To set up motion configuration, perform the following steps:

Procedure

Step 1 Make sure that an analog camera is configured. See Adding a New Analog Camera, page 4-30.

Step 2 In the Administrator pages, click **Events**.

Step 3 Add a new event, or click the Edit icon for the event and then open the Motion Configuration tab.

To create a new window, click and enter the new window name. No spaces are permitted in the name.

- For a non-mask window, leave the **This is a a mask window** check box unselected.
- For a mask window, select the **This is a a mask window** check box.

A green or red window with the window name is added to the video preview image. To resize the window, drag the borders of the window. To move the window, drag and drop the window itself.

Step 4 Add additional windows as needed.

Step 5 Use the information in Table 5-10 to complete the motion configuration.

Step 6 Click **Submit**.

Table 5-11 Motion Configuration Settings

Item	Description
Mask window drop-down list	Change the window to configure or delete. You can also change the window by selecting it in the video preview. For multiple stacked windows, however, it may be easier to use the drop-down list.
New	To create a new window, click and enter the new window name, and choose whether the window will be a mask window. No spaces are permitted in the name. Click **OK**.
Delete	Choose the window and click to delete a window. You must delete windows to turn motion detection off. Note that the camera configuration will remain in the motion detection module and will be marked as **Yes** in the motion column of the feeds list. You cannot rename windows. You must delete and then read a window to use a different name.
Mask Window	Indicate whether the selected window is a mask window.
Sensitivity	Indicates the level of motion sensitivity. Set the level of sensitivity that will cause a motion to be reported. • 0 - Detects no motion • 5 - Most sensitive to motion
Inactive/Active	Display the current status of the mask window.
Object Size	Adjust the ratio or percentage of the total active area (all green boxes outside the mask (red) areas) required to be active in order for the motion to be considered valid. The size applies to both mask and active (object) views. Use the following example for further clarity:
Persistence	Specify how long movement must occur to record a motion event.
Show Grid	Change the grid display options, if supported by the device. Whether the feature is available depends on the device, as does the granularity of the grid.

Managing Schedules

Use schedules to enable and disable specific events, user accounts, and roles on a pre-determined schedule. Each schedule can control multiple entities and you can change the schedule assigned to an entity at any time.

The following schedule types are supported:

- Simple schedule—Specify one or more start and end dates. A simple schedule is active and feeds are recorded when the current date/time falls between the start/end date/times. Simple schedules are useful for defining one-time control of an entity's status or a list of exceptions (such as holidays). You can also use simple schedules for a one-time or loop archive.
- Recurring schedule—Specify a repeating schedule. A recurring schedule is active and feeds are recorded when the current weekday is a day defined in the recurring schedule and the current time falls between one of the start/stop intervals for that day. The schedules are considered inactive during all other date/times.

When a scheduled entity has no active schedules, it returns to its default enabled or disabled state. If an entity has a default state of enabled and a schedule is set to disable when it is active, the entity is disabled when the schedule is active and returns to the default state of enabled when the schedule becomes inactive.

Simple schedules takes precedence over recurring schedules. If simple and recurring schedules are active simultaneously, the simple schedule becomes active and the recurring schedule becomes inactive. When both become inactive, the entity returns to its default state.

The Schedules panel opens when you click **Schedules** on the side menu in the Administrator pages. This panel contains links to manage schedules. It also includes a table that lists information about schedules along with links and action buttons. The links and actions are described in Table 5-12.

Table 5-12 Schedule Panel Links and Buttons

Item	Description
Add a New Schedule	Create a new schedule
Help button	Open the online help system to display help for the specified item.
Search	Enter text and click **Search** to find an item in the table.

Table 5-12 Schedule Panel Links and Buttons (continued)

Item	Description
Table Columns	Displays the following information about each schedule: • Name (link)—Name that identifies the schedule. Click the link to display detailed information. • Server Name—Name of the media server that manages this feed. • Type—Schedule type (simple or recurring). • Description—Optional user-specified description. • Status—Indication of whether the schedule is active (enabled).
Action buttons	Allows you to perform the following actions: • Edit—Modify the camera feed information. See Editing or Deleting Schedules, page 5-30. • Delete—Remove the camera feed from the database. Editing or Deleting Schedules, page 5-30.

Adding a Schedule

To add a new schedule, perform the following steps;

Procedure

Step 1 In the Administrator pages, click **Schedule**.

Step 2 Click **Add a New Schedule**.

Step 3 Configure information as described in Table 5-13.

Step 4 Click the **Rights** tab and verify the access designations. See Managing Events, page 5-15.

Step 5 Click **Submit**.

The Schedules panel reopens to display the events, roles, and users to which you can assign the schedule.

Step 6 Select check boxes to specify the entities. Click + to expand a category, or - to hide the category.

Note If there is a schedule currently active on an entity, the manual enable/disable will be overridden by the enable/disable applied by the active schedule. If there is no currently active schedule, the manual enable/disable will work as expected. However, as soon as a schedule becomes active again, the active schedule will determine the state of the entity and when the schedule becomes inactive; the entity will be returned to the default state of the entity, not to the state of the manual enable/disable.

Step 7 Click **Submit**.

Table 5-13 Schedule Settings

Item	Description
Details	Configure the following settings on this tab: • Name—Enter a name for the schedule. Cisco recommends that you choose a standardized naming convention. • Description—Enter an optional description. • Server—Select the server the camera feed will be linked to. • Status—Determine if the schedule is to be enabled or disabled. Enabled schedules are available for use. Disabled schedules remain on the Schedules list but are not available for use.
Simple	To add a simple schedule: 1. Open this tab and select the **This is a Simple Schedule** check box. 2. Choose whether to enable the schedule. 3. Enter a start and end date (mm/dd/yyyy format), or click the calendar icons to select the date. 4. Select the start and end times from the drop-down lists. To add an additional start and end date/time, click **Add Date(s)**. To remove a start and end date/time, click the **Remove** link for that entry.

Table 5-13 Schedule Settings (continued)

Item	Description
Recurring	To add a recurring schedule: 1. Open this tab and select the **This is a Recurring Schedule** check box. 2. Choose whether to enable the schedule from the **Action** drop-down list. 3. Enter a start date (mm/dd/yyyy format), or click the calendar icon to select the date. 4. Select one or more days of the week. 5. Select the start and stop times from the drop-down lists. To add an additional start and stop time, click **Add Time Range**. To add additional days of the week and associated times, click **Next Weekdays**. To remove an entry, click the **Remove** link for that entry. 6. Choose one of the following options to end the schedule: – **End After**—End after a specified number of occurrences. – **End By**—End after a specified date. – **No End Date**—Do not end the schedule.

Editing or Deleting Schedules

To change the schedule settings, perform the following steps;

Procedure

Step 1 In the Administrator pages, click **Schedules**.

Step 2 Click **Edit** icon for the schedule.

Step 3 Modify information on each tab as described in Adding a Schedule, page 5-28. For recurring schedules, you can modify only the start and end dates.

Step 4 Click the **Rights** tab and verify the access designations. See Managing Roles, page 5-8.

Step 5 Click **Submit**.

Table 5-14 Editing Schedules

Item	Description
Details	Configure the following settings on this tab: • Name—Specify the name for the schedule. Cisco recommends that you choose a standardized naming convention. • Description—Enter an optional description. • Status—Determine if the schedule is to be enabled or disabled. Enabled schedules are available for use. Disabled schedules remain on the Schedules list but are not available for use.
Schedule	To modify a simple schedule: 1. Choose whether to enable the schedule. 2. Enter a start and end date (mm/dd/yyyy format), or click the calendar icons to select the date. 3. Select the start and end times from the drop-down lists. To add an additional start and end date/time, click **Add Date(s)**. To remove a start and end date/time, click the **Remove** link for that entry.
Entities	Specify the entities that you want to be able to use the schedule. Click + as needed to expand a listing in the Add Available Entities section and then select check boxes for entities you want to add. To remove entities, click + as needed to expand a listing in the Remove Assigned Entities section and then select check boxes for entities you want to remove.
PTZ Actions	Select check boxes for the cameras for which you want to apply PTZ preset and PTZ pattern schedules. Choose the default and active presets and patterns from the drop-down lists. **Note** The PTZ pattern options are available only for Pelco Spectra IV cameras (Pelco-D) and only if the schedule has a PTZ pattern defined. See Configuring PTZ and Joystick Settings, page 4-45 for more information.

To delete a schedule, perform the following steps:

Procedure

Step 1 In the Administrator pages, click **Schedules**.

Step 2 Click **Delete** icon for the schedule.

Step 3 Click **Yes**.

Configuring System Settings

Use the Settings panel to configure system-wide settings and display license information. Cisco recommends that you accept the default settings whenever possible.

To configure system-wide settings, perform the following steps;

Procedure

Step 1 In the Administrator pages, click **Settings**.

Step 2 On the Settings tab, configure information as described in Table 5-15.

Step 3 To display version and license information, open the VSOM, PHO, and MySQL tabs.

Step 4 Click **Submit**.

Table 5-15 System Settings

Item	Description
Application Settings	
Skin	Use this to set the customized, company specific GUI appearance of the application. The default skin used at startup can be used.
Language	Select the default language for the user interface.
Default Paging	Select the number of records per page to be displayed. A selection of No Paging will display all available records. The following will be displayed on the applicable panels:
Session Timeout	Select the amount of time a session will remain active without user action. When the session time is reached without user activity, the session will log the user out. The timer will reset upon a View/Source switch.
Show Previews	Click this checkbox to set the camera image previews. These previews will be displayed in Analog Cameras, IP/Network Cameras, PTZ and Joystick, Camera Feeds, and Camera Groups lists other and update screens.
Enable Secure Login	Click this checkbox to require users to login using SSL. A valid certificate will be required.
Database Backup	Select this check box to schedule a daily database backup. Choose the time (hours and minutes) from the drop-down lists.
Max no. of backup	Select the maximum number of backups to store on the server. When the number of backups exceeds this number, the oldest backups are deleted.
Operator Settings	
Max Record Length Now	Select the maximum default amount of time view recording will occur for archives. This functionality is found in the Operator page. Operators will be permitted to set the record time to this length or less.
Historical Events	Set the number of events viewable by operators in the Operator page.
Use VMR	Click this checkbox to enable/disable the enlarged VMR mode in the first display pane when using multiple panes. If VMR is enabled, the timestamp display is on all streams. If VMR is disabled, the timestamp will be displayed for MPEG-2 feeds only.

Table 5-15 System Settings (continued)

Item	Description
Use DVR	Click this checkbox to enable/disable the DVR mode in the first display pane when using multiple panes.
Display Video Timestamp	Click this checkbox to display the timestamp on the primary pane in the applicable view.
Use SmartSearch	Click this checkbox to enable the SmartSearch function in the Operator page.
Enable Snapshot	Allows snapshots to be taken in the Operator page.
Application Name	Enter the application/program name. This will be displayed in the upper left corner of the user interface.
Logo	Upload the company specific logo. This is displayed in the upper left corner of the Operator page under the application name.
Logo Link	Select the checkbox and enter the company web address. This site will be displayed when a user clicks the company logo.
Login Image	Upload the logo to be displayed on the user login page. This setting can be left blank.

Generating Reports

You can generate detailed activity, statistics, and history reports.

To generate reports, perform the following steps;

Procedure

Step 1 In the Administrator pages, click **Reports**.

Step 2 Click the report type, as described in Table 5-16.

Step 3 If prompted, specify a time interval, and click **Submit** to display the report.

You can click a column header in a report to sort on that column. Click again to change the sort order. Most reports also include a search option. Enter search text and click **Search** to display the matching entities.

Step 4 To remove a report from the system, choose the **Purge Report** option.

Step 5 Click **Submit**.

Table 5-16 Report Settings

Item	Description
User Activity Report	Displays information on user login sessions. Specify a start and end date/time, and choose whether to include the root account. Click **Submit**.
Device Configuration Report	Displays details on all the devices in the system that are involved in providing camera feeds.
Run-Time Statistics	Displays information about system activity, including the type of activity and number of current items or sessions.
Application Log File	Opens a scrolling window to show the current system log.
Event History	Lists the events that have occurred on the system. Specify a date range, or select **Show All Events**. You can search for or filter events in the list. For more information, see Managing Events, page 5-15. Click the **export data to csv** icon to export the list to a comma-separated value (CSV) file. **Note** Deleting an event deletes all of the event histories for that event.

Displaying System Overview Information

Open the System Overview panel to display information disk space usage for the media servers managed by VSOM and user login sessions.

Choose **Overview** in the Administrator pages to open the panel.

The panel contains the following information:

- Disk space usage—A pie chart is presented for each media server. The chart shows the portions of disk space that are free/healthy (green), used (blue), and with low availability (red). A disk is considered to have low availability if less than 15% space is available. Click the underlined links to present additional information about a server. If there are more than 10 pie charts, you must click a link to display details. See Managing Servers, page 4-2.
- User sessions—The panel lists the current user sessions and all session for the current day, including the access time and time of last login. Click the underlined link for a user to display the detailed user information. See Managing Users, page 5-2.
- Feeds and Archives—The panel lists the numbers of camera feeds and archives that are missing and out of sync as a fraction of the total number of camera feeds and archives. Missing means that an expected camera feed or archive is on VSOM but not on VSMS. Out of Sync means that the camera feed or archive is on VSMS but not on VSOM. The out of sync condition typically occurs if a user installs and the reinstalls VSOM, but has not yet performed synchronization.

Importing Devices

You can import information about the following device types for automatic inclusion in the VSOM database:

- Hosts (VSMS or VSVM Servers)
- Encoders
- Camera Groups (feed groups)
- Direct Feeds

To import device information in Excel format, perform the following steps:

Procedure

Step 1 In the Administrator pages, click **Device Import**.

Step 2 Click the **device.xlt.template** link to download the Excel template.

Step 3 Follow the instructions on the README tab to enter the device information. Fill in the information in numerical order, as subsequent tab entries are auto-filled based on previous entries.

Note Use the MS Excel Edit, Paste Special, Links option when you copy details from one tab to another. This functionality performs updates across the entire spreadsheet when a single item is edited and is useful when making changes to host and encoder video feed names.

Step 4 Save the edited file on your computer.

Step 5 Click the **Prepare Import** button on the Summary tab of the Excel file to run an macro that generates the file for uploading.

Step 6 Click **Browse** on the Device Import panel and choose the Excel file that you saved.

Step 7 Click **Parse Excel File** to upload and review the device information. Any reported errors must be fixed and the files must be parsed again before importing.

Step 8 Click **Import**.

The device information is uploaded to VSOM.

Managing Software and Downloads

Use the Software and Downloads panel in the Administrator pages to download software and documentation. The following downloads are available on this panel.

- VSOM User Guide—Download a PDF of this user guide.
- Virtual Matrix Client—Download the Virtual Matrix Client, which operators can use to control the video that is displayed on local and remote systems.
- VSOM Video Client—Download the VSOM video client, an ActiveX control that allows you to play back videos without being logged into VSOM.
- SmartSearch—Download the Cisco SmartSearch application, which allows you to quickly search through large video archives. It is used primarily for forensic purposes, to scan video archives based on specified parameters.

Backing up the Database

Open the Database Backups panel to manage backups of the VSOM database. The links and actions on the panel are described in Table 5-17.

Table 5-17 Database Backup Panel Links and Buttons

Item	Description
Create a backup for download	Create a database backup file (tar file) to save on your local computer.
Create a backup on the server	Create a backup to store on the VSOM server. Server backups are listed on the Database Backups panel.
Help button	Open the online help system to display help for the specified item.
Search	Enter text and click **Search** to find an item in the table.
Table Columns	Displays the following information about each backup file: • Backup Name—System-generated name for the backup file. The name includes the server and date. • Creation Time—Date and time the backup was created. • Status—Indication of whether the backup is completed.

Table 5-17 Database Backup Panel Links and Buttons (continued)

Item	Description
Action buttons	Allows you to perform the following actions: • Download—Downloads the file to your local computer. • Delete—Removes the backup file from the server.

To restore the database, perform the following steps:

Procedure

Step 1 Use the backup file stored on the VSOM server under the location /usr/BWhttpd/bas/db/backups/ or copy a backup file from another machine to the VSOM server.

Step 2 Execute the following command from a command prompt on the VSOM server:

```
/usr/BWhttpd/bin/vsom_backup_restore path/filename
```

where *path* is the full path and *filename* is the name of the backup file.

For example:

```
/usr/BWhttpd/bin/vsom_backup_restore   /<directory containing
backup>/VSOM_psbu-neo_backup_20081112113159.tar
```

The database is restored, VSOM is restarted, and VSMS is restarted if it is running on the VSOM server.

Creating Custom Field Labels

You can create custom field labels to add additional information on users or cameras. The labels that you define are displayed on the Custom Fields tab for the user or camera, and on the Batch Administration page. See Managing Users, page 5-2, Managing Analog Cameras, page 4-28 and Managing IP/Network Cameras, page 4-36.

To create custom field labels, perform the following steps:

Procedure

Step 1 In the Administrator pages, click the link to open the User, Analog Cameras, or IP/Network Cameras link.

Step 2 Click the link to edit custom field labels.

Step 3 Enter up to 20 field labels in the order in which you want them to appear. Labels that are left blank are ignored.

Step 4 Click **Submit**.

INDEX

A

accessing VSOM 2-3
ActiveX controls 2-2
adding a camera 4-64
administrator pages
  about 2-6
  accounts menu 2-7
  device menu 2-6
  menu selections 2-6
  system menu 2-7
  video feeds menu 2-7
alerts
  email 5-21
  URL 5-21
  web-based 5-21
analog cameras
  about 4-28
  adding 4-30
  advanced configuration 4-33
  and encoders 4-22
  camera types 4-31
  chain number 4-33
  COM port 4-33
  displaying information about 4-35
  editing or deleting 4-34
  map settings 4-33
  panel links and buttons 4-29
  quality setting 4-32, 4-36, 4-40, 4-44
  settings 4-31
archive
  creating clips 3-10
archives
  adding 4-71
  backups 4-73
  continuous loop 4-73
  creating backups 4-74
  editing or deleting 4-74
  event archive options 5-20
  force start 4-72
  lists 4-69
  managing 4-68
  motion start and stop 5-24
  panel links and buttons 4-68
  schedules 4-73
  settings 4-72
aspect ratio 3-8

B

backups
- archives 4-73
- creating archive 4-74
- database 5-38
- restoring 5-39

batch administration 4-64
- copy and paste 4-67
- filters 4-63
- for camera groups 4-55
- lock icon 4-64
- parameters 4-65
- performing 4-63

border size 4-6

browsers
- setting up for VSOM 2-2
- supported 2-2

C

camera feeds
- adding child 4-60
- editing or deleting 4-62
- managing 4-58
- panel links and buttons 4-58
- settings 4-61

camera groups
- configuration 4-57
- managing search-based 4-56

cameras
- about IP/network 4-36
- adding with batch administration 4-64
- analog, about 4-28
- and encoders 4-22
- PTZ-enabled 4-18

camera tour 4-76, 4-79

chain number 4-33

child camera feeds 4-60

clips
- BWM and BWX 3-18
- creating 3-18
- creating in event inbox 3-17
- indexing 3-21
- searching outside VSOM 3-20

closed circuit television (CCTV) keyboard 4-52, 4-54, 4-76, 4-78

colors, video display 3-6

color settings 4-6

common name 4-43

common name for encoder copies 4-26

common name for IP/network copies 4-43

COM port 4-33

copy and paste for batch administration 4-67

CVA 3-18

CVA format 3-18

D

database
- backing up 5-38
- restoring 5-39

days to live 4-11

devices
- importing 5-36
- importing in Excel format 5-37

digital zoom 3-10
- PTZ setting 4-48

displaying
- event inbox 3-16
- video feeds 3-5

display panel
- adjusting 3-6

display settings for virtual matrix server 4-6

downloads, managing 5-38

drag-and-drop camera groups 4-55

DVR mode 4-79

dwell time 3-8, 4-54

E

email notification 5-21

encoders
- adding 4-23
- and batch administration 4-64
- and multiple streams 4-22
- common name 4-26
- copying 4-25
- displaying information about 4-26
- editing or deleting 4-24
- managing 4-22
- name sequence 4-26
- panel links and buttons 4-22
- username and password 4-24

event inbox
- about 3-15
- controls and actions 3-16
- displaying 3-16

events
- adding 5-17
- alerts 5-21
- and monitors 5-21
- and PTZ presets 5-21
- archive options 5-20
- configuring 5-19
- editing, or deleting 5-19
- email notification 5-21
- enabling bookmark events 5-15
- enabling record now 5-16
- flags 5-16
- history reports 5-35
- managing 5-15
- motion config tab 5-18
- motion start and stop configuration 5-23
- motion start tab 5-18

motion stop tab 5-18
panel links and buttons 5-15
schedules 5-21
setting up record on motion 5-22
triggering options 5-18
triggers 5-15
URL notification 5-21
web-based alerts 5-21
events inbox
creating clips 3-17
hiding events 3-17
keywords 3-16
marking as read or unread 3-17
priority 3-16
real-time 3-16
repeat segment 3-17
seek 3-17
time options 3-16
view action 3-17
exporting PTZ settings 4-47

F

feed/archive controls
creating views 3-10
dwell time 3-8
fixed aspect 3-8
full source display 3-8
scroll bar 3-8
settings and action 3-8
synchronizing video panes 3-9
title bar 3-8
toggle full screen 3-8
upload view to monitor 3-8
using 3-7
feed matches 4-57
filtering
camera list 4-63
events inbox 3-16
fixed aspect 3-8
force start 4-72
framerate 4-61

G

groups
about 4-55
configuration 4-57
drag-and-drop 4-55
managing 4-55
managing search-based 4-56

H

help system access 2-4

I

image controls 3-12
IP/network cameras
- about 4-36
- adding 4-38
- advanced configuration 4-41
- camera feed information 4-44
- copying 4-42
- custom fields 4-45
- displaying information about 4-43
- editing or deleting 4-41
- map settings 4-41
- name sequence 4-43
- panel links and buttons 4-37
- settings 4-39

J

joystick
- configuration 4-45
- controls 3-13

K

keywords, for events inbox 3-16

L

LDAP
- parameters 5-7
- user login option 5-4
- working with 5-7

license information 4-8
Lightweight Directory Access Protocol. See LDAP
lock icon 4-64
logging out 2-4
loop archives 3-9

M

managing 5-8
mask windows 5-25
MJPEG 4-59, 4-61
monitors
- adding 4-52
- and events 5-21
- and virtual matrix client and server 4-54
- displaying configuration 4-54
- editing or deleting 4-53
- fixed windows 4-54
- managing 4-52
- rotating source list 4-54
- settings 4-52

motion
- configuration settings 5-26

options for events 5-18

start and stop configuration 5-23

motion detection, setting up windows for 5-25

MPEG2 4-59, 4-61

MPEG4 4-59, 4-61

N

name sequence for encoder copies 4-26

name sequence for IP/network camera copies 4-43

NVR/DVR

adding 4-17

archive information 4-21

camera feed information 4-20

displaying information about 4-20

editing or deleting 4-19

links and buttons 4-16

managing 4-16

O

on-screen programming (OSP) 4-48

operator lists 4-76, 4-80

operator page

adjusting video display 3-6

availability of features 3-2

creating archive clips 3-10

creating views 3-10

digital zoom 3-10

event inbox 3-15

exploring 3-3

feed/archive controls 3-7

image controls 3-12

menu selections 3-2

overview 3-2

playback controls 3-9

PTZ controls 3-12

PTZ settings and actions 3-14

side menu 3-4

synchronizing video panes 3-9

taking video snapshots 3-10

understanding video display 3-6

P

pan-tilt-zoom. See PTZ

patterns with schedules 4-51

Pelco cameras

and schedules 4-51

OSP 4-48

permissions and rights

about 5-8

examples 5-9

pre-defined views

managing 4-76

panel links and buttons 4-76

preferences 2-5

priority, for events inbox 3-16
pseudo root 5-12
PTZ 4-18
  about controls 3-12
  camera options 3-15
  configuration 4-45
  configuration links and buttons 4-46
  digital zoom 4-48
  exporting settings 4-47
  identifying sources 3-14
  joystick controls 3-13
  loading presets 3-14
  operations 3-12
  priority 5-12
  settings and actions 3-14
  using controls 3-13
  white balance 4-48
PTZ-enabled camera 4-18
PTZ patterns 4-49

Q

quality settings
  analog cameras 4-32, 4-36, 4-40, 4-44

R

real-time event display 3-16
recorder, adding NVR/DVR 4-17
record on motion events 5-22
repeat event segment 3-17
reports
  generating 5-34
  settings 5-35
roles 5-8
  adding 5-11
  administrator 5-8
  copying 5-13, 5-14
  default 5-8
  displaying information about 5-15
  editing or deleting 5-13
  operator 5-8
  panel links and buttons 5-10
  permissions and rights 5-8
  schedules 5-12
  settings 5-12
  view only 5-8
rotating source list 4-54, 4-80

S

schedules
  adding 5-28
  and events 5-21
  and PTZ configuration 4-50
  and PTZ presets 4-46
  archive 4-73
  continuous loop 4-73

editing or deleting 5-30
managing 5-27
panel links and buttons 5-27
patterns 4-51
recurring 5-27, 5-30
roles 5-12
settings 5-29, 5-31
simple 5-27, 5-29, 5-31
user 5-4
scroll bar 3-8
search-based camera groups 4-56
seek event time 3-17
servers
adding 4-4
archive information 4-10
backup 4-4
camera feed information 4-9
colors and borders 4-6
configuration 4-8
details 4-8
disk usage 4-8
displaying information about 4-7
display settings 4-5, 4-6
editing or deleting 4-5
event information 4-11
license information 4-8
managing 4-2
panel links and buttons 4-2
settings 4-4
types 4-4
version information 4-8
setting preferences 2-5
setting up 5-22
side panel icons and links 2-4
SmartSearch
defining search area 3-20
indexing clips 3-21
launching 3-8
playback controls 3-20
searching clips outside VSOM 3-20
selecting motion events 3-20
settings and actions 3-20
using 3-19
snapshots 3-10
software, managing 5-38
streaming 3-8
swapping feeds 3-9
synchronize video panes 3-9
system overview panel 5-36
system settings 5-32, 5-33

T

title bar, displaying in video display panel 3-8
toggle full screen 3-8

U

upload view to monitor 3-8
URL, notification 4-11
URL notification 5-21
user accounts
  LDAP 5-2
  local login/password 5-2
users
  adding 5-3
  displaying information about 5-6
  editing or deleting 5-5
  panel links and buttons 5-2
  permissions and rights 5-8
  roles 5-6, 5-8
  schedules 5-4

V

version information 4-8
video
  displaying feeds 3-5
  playback controls 3-9
  snapshots 3-10
  synchronizing panes 3-9
video display panel
  adjusting 3-6
video panel
  border colors 3-6
  understanding 3-6
Video Surveillance Encoding Server. See VSES
Video Surveillance Management Console (VSMC) 1-2
Video Surveillance Media Server. See VSMS
Video Surveillance Operations Manager. See VSOM
Video Surveillance Virtual Matrix. See VSVM
views
  adding 4-77
  camera tour 4-76, 4-79
  creating in operator page 3-10
  displaying information about 4-81
  DVR mode 4-79
  editing or deleting 4-81
  managing pre-defined 4-76
  operator lists 4-76, 4-80
  panel links and buttons 4-76
  rotating source list 4-80
virtual matrix
  display settings 4-6
  server settings 4-5
VSOM
  About 1-2
  accessing 2-3
  features 1-2
  interface 2-4
  side panel icons and links 2-4

W

web interface 2-4